

The
Country Home

Month by Month

E. I. Farrington

Illustrated



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THE COUNTRY HOME

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MONTH BY MONTH

A Guide to Country Living

BY

EDWARD IRVING FARRINGTON

For seven years editor of "Suburban Life," Author of "The Home Poultry Book," Practical Garden Maker, Bee Keeper and Poultry Raiser, Etc.

A daily reminder of duties to be performed, together with detailed and accurate directions for carrying out the various operations. All the activities of the country home and farm competently covered, with due regard for geographical and climatic conditions.

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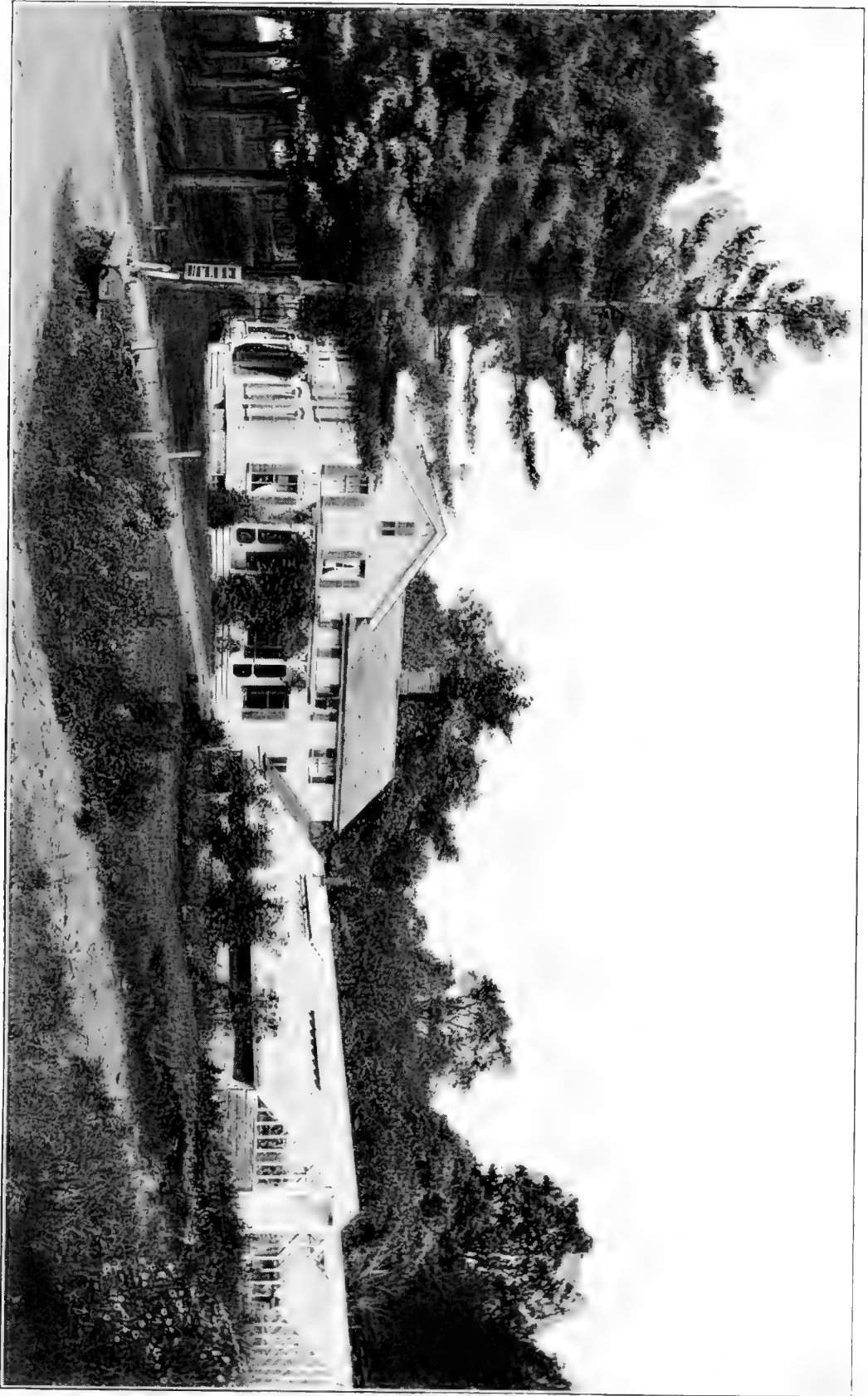
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FOREWORD

WITH painful recollections of the many occasions on which the author has remembered things to be done just too late to do them, this book has been written with an intent to help others in doing the right things at the right time. Duties crowd so hard in the country, especially in Spring and Summer, that many of them are inevitably overlooked, unless one has a working memorandum at his elbow. This volume is designed as a ready-made memorandum book for ready reference each month of the twelve. Yet it is more than merely a monthly reminder, for detailed and, let us trust, accurate directions for carrying out the more important operations, are given. It is not claimed that the author has actually participated in all the activities described, for they cover a very wide range; yet much of the book is based on personal experience and the best authorities have been drawn upon for the rest, with due allowance for geographical and climatic conditions. Now, therefore, the book is sent on its way in the sincere hope that it will prove a reliable guide post to those who tread the pleasant paths of country living, and in the belief that, at least, it will not lead anyone astray.

E. I. F.

CONTENTS

	PAGE
APPENDIX	223
JANUARY	11
OUTDOOR WORK OF THE MONTH	13
GREENHOUSE AND WINDOW GARDEN	15
STABLE AND LIVESTOCK	16
AN IMPORTANT POULTRY MONTH	18
FEBRUARY	25
MIDWINTER PRUNING	25
GREENHOUSE AND WINDOW GARDEN	31
STABLE AND LIVESTOCK	33
IN THE POULTRY YARD	35
MARCH	43
GREENHOUSE AND WINDOW GARDEN	49
OUTDOOR GARDEN WORK	50
STABLE AND LIVESTOCK	56
A BUSY MONTH FOR THE POULTRYMAN	58
APRIL	65
AROUND THE GROUNDS	66
IN THE VEGETABLE GARDEN	67
IN THE FLOWER GARDEN	70
ORCHARD AND FRUIT GARDEN	72
GREENHOUSE AND WINDOW GARDEN	77
APRIL POULTRY WORK	79
LIVESTOCK AND BEES	84
MAY	89
IN THE FLOWER GARDEN	90
THE VEGETABLE GARDEN	94
LIVESTOCK AND POULTRY	98
THE MONTH'S WORK WITH BEES	101

CONTENTS

vii

	PAGE
JUNE	107
ORCHARD AND SMALL FRUITS	111
IN THE FLOWER GARDEN	114
IN THE VEGETABLE GARDEN	115
LIVESTOCK AND POULTRY	118
WORK WITH THE BEES	120
JULY	125
ORCHARD AND FRUIT GARDEN	129
IN THE FLOWER GARDEN	130
WORK IN THE VEGETABLE GARDEN	133
GREENHOUSE AND WINDOW GARDEN	135
STABLE AND LIVESTOCK	136
IN THE POULTRY YARD	139
WORK WITH THE BEES	142
AUGUST	147
ORCHARD AND SMALL FRUITS	148
WORK IN THE FLOWER GARDEN	149
IN THE FRUIT GARDEN	152
IN THE VEGETABLE GARDEN	152
THE MONTH'S WORK IN THE GREENHOUSE	154
LIVESTOCK AND STABLE	155
IN THE POULTRY YARD	155
SEPTEMBER	163
TABLE OF PERENNIALS	165
IN THE VEGETABLE GARDEN	171
GREENHOUSE AND WINDOW GARDEN	172
GENERAL FARM WORK	173
WORK IN THE ORCHARD	174
WORK IN THE SOUTH	175
STABLE AND LIVESTOCK	175
IN THE POULTRY YARD	176
IN THE APIARY	177
OCTOBER	181
WORK IN THE FLOWER GARDEN	183
GREENHOUSE AND WINDOW GARDEN	184

	PAGE
WORK IN THE FRUIT GARDEN	185
GENERAL FARM WORK	187
STABLE AND LIVESTOCK	188
IN THE POULTRY YARD	189
BEE WORK	192
NOVEMBER	197
GREENHOUSE AND WINDOW GARDEN	203
STABLE AND LIVESTOCK	206
IN THE POULTRY YARD	207
DECEMBER	211
GREENHOUSE AND WINDOW GARDEN	213
LIVESTOCK AND STABLE	217
POULTRY WORK	219

APPENDIX

EXPERIMENT STATIONS	223
PERIOD OF GESTATION-ANIMALS	224
INCUBATION PERIOD	224
STANDARD WEIGHTS OF POULTRY	224
CORNELL RATION FOR EGG-PRODUCTION	225
PLANTING TABLES FOR FLOWERS AND VEGETABLES	Op. 226
DISTANCE TABLE FOR VEGETABLES	226
PLANTS REQUIRED TO SET AN ACRE AT VARIOUS DISTANCES	226
SEED TABLES—QUANTITIES TO ACRE	227
TIME REQUIRED FOR GARDEN SEEDS TO GERMINATE	228
WEIGHT AND SIZE OF GARDEN SEEDS	228
MATURITY TABLE FOR VEGETABLES	229
ANALYSES—FRUITS AND FRUIT-PLANTS	229
ANALYSES OF MATERIALS USED FOR FERTILIZER	230
WEIGHTS AND MEASURES USED IN THE U. S.	230
SPRAYING CALENDAR	232

JANUARY

*Piped a tiny voice hard by,
Gay and polite, a cheerful cry,
Chic-chic-a-dee-dee—
Happy to meet you in these places,
Where January brings new faces.*



THE COUNTRY HOME

JANUARY

JANUARY is the planning month, the catalogue month, the month for plotting the garden, sharpening the tools, making repairs, the month for reading a few good books on country living. There is no time for idling, even in January. It is undeniable, of course, that there is little work to do out of doors. Yet the evergreens must be kept free of snow and ice, in order that they may not break down. The stock must be given an airing and on warm days there are always little outside jobs—suckers to clean off the apple trees, litter to burn, walks to clear, as much open-air exercise as a man needs to send the blood coursing through his veins.

It is really important to make up the order for seeds and plants early. When the season is well advanced the seedsmen and nurseries will be swamped with business, there will be more delay and the likelihood of mistakes will be multiplied. It pays to make a diagram at the same time—not a little diagram in your notebook, but a large, workable diagram on a sheet of wrapping paper. Spread it on the floor, if you have

to, but draw the diagram to scale. Then draw a line for each crop and write the name against it. Put berries, rhubarb and asparagus where they will be out of the way. Plot your corn and other tall vegetables so that they will not shade the low-growing kinds. Use a planting table and plan a succession of short season crops, in order that you may make the most of all the garden. To paraphrase a shopworn saying, the way to have a good garden is to mix system with your fertilizer.

January is none too early to order hotbed sash. The cheapest plan is to buy unpainted and unglazed sash and to order the glass by the box, setting it yourself. Photographic plates which have been discarded may be used to advantage. The emulsion is easily removed with hot water and a putty knife.

Although costing more, the double glass sash are certainly preferable to the more common kind, as no mats or shutters are needed, even in the dead of Winter. They are heavy, though, and it is well for women, at least, to order what are termed "pony" sash. They are just half the size of the regulation 3 x 6 sash and much easier to handle.

Painting the garden tools is a piece of work which may well be undertaken in January. A red or white band around the handles of the smaller tools will make finding them much easier, if they are mislaid in the garden or dropped in the grass. Also, tools marked in this fashion are more certain to be re-

turned when borrowed. In some neighborhoods the borrowing habit becomes a nuisance, and good gardeners make it a point to place their initials on all their tools. It is easy to make a little tin stencil and to burn the letters into the wood with a hot poker. Another plan is to clean a small spot on the metal and cover it with wax, in which the initials are made with a nail, the letters then being filled with nitric acid.

It pays to have racks or hooks for all the garden tools and to put them where they belong after they have been used. Many a weary search is avoided when this practice is adhered to.

OUTDOOR WORK OF THE MONTH

Grapes and other small fruits may be pruned this month in all parts of the country. Many amateurs neglect their grapevines because they do not know just how to trim them. The advanced methods of the professional grower may not be adopted, but in order to get satisfactory results the vines should be cut back each season. Let it be remembered that grapes bear on wood of the present season, which grows from canes of the previous season. Each year several of the best canes should be selected and cut back to three eyes, the rest of the wood being cut away. The crop will be borne on canes from those eyes.

When the vines are trained over an arbor or pergola, it is proper to let the main stalk or trunk grow until it reaches the

top, but the canes which shoot from it should be cut back to the three-eye limit each Winter. Then the vine will bear an abundance of fruit while also providing the desired shade. With a very little work, a number of grapevines may be kept in excellent bearing condition. The grape is a crop which the amateur may be practically sure of after the third year.

Raspberries and blackberries bear on last year's wood and a good January job is cutting away the old canes. This not only opens up the plants, but also gets rid of insect pests and fungi which may have found lodgment on them. Three to six new canes should have been grown in each hill.

Currants may also be trimmed this month, but it must be remembered that they bear mostly on wood which is two years old or older. After bearing a few years the old wood should be taken out, while two or three new shoots should be allowed to grow from the roots each season. Surplus shoots should also be removed. Gooseberries are to be trimmed in the same way.

This is the best month for getting in the ice crop, as a rule. Even when there is no river, creek or pond convenient, it still is possible to harvest a considerable amount of ice. Plank molds 24 inches long, 18 inches wide and a foot deep may be used, being filled with water when a cold snap comes on.

When the water has frozen solid, the ice may be removed from the molds by turning the latter over and pouring hot water on them.

GREENHOUSE AND WINDOW GARDEN

In the greenhouse, lettuce, radishes and spinach may be sown. They will be ready for the table in February. Seeds of Prizetaker onions for growing in the open ground may be started the latter part of the month.

Greenhouse plants to start from seed this month include the begonias, asparagus plumosa, asparagus sprengeri, Grevillea robusta, Dracæna and smilax. Bougainvillea plants may now be bought for forcing. They are extremely handsome and can be flowered in about two months. Gladioli bulbs may be forced in the greenhouse or the window garden. Forcing bulbs should be specified in the order.

The Christmas poinsettia should be stored until May after it has finished flowering and should be allowed to remain perfectly dry. A good place for it is under the bench or in a warm room. In May cuttings may be started for new plants.

Hyacinths, tulips and other bulbs should be brought into heat in order to have a succession of blossoms in the house. Proserpine, Cottage Maid, Yellow Prince and La Reine are good tulips for starting early in the month. Other single varieties may be started the last week, but the double tulips can not be forced successfully until the latter part of February. Most of the other bulbs, except such as will be named later for Christmas forcing, may be started after the first of January.

None of them should be brought into heat, however, until strong root growth has been made.

STABLE AND LIVESTOCK

It is important to keep the horses and cattle warm, but just as important to give them fresh air in plenty. In some instances muslin has been substituted for glass in a few of the windows and the results have been as satisfactory as when muslin has been used in the poultry house. In a cold barn, the cows may be blanketed.

The cows should be turned out for an hour, even in cold weather, unless a storm is raging. Good care does not mean depriving them of exercise. This applies particularly to cows about to calve.

Both cows and horses need an abundance of bedding. Bedding keeps them comfortable and keeps them clean. The cows require grooming as well as the horses. Both must have salt, also. There are devices on sale, by means of which a cake of salt may be attached to the side of the stall or manger and kept clean.

It is important that the horse be sharp shod before he is taken out on icy roads. Neglect of this precaution may result in a bad accident or a lamed horse.

It is humane to warm the bits by holding them in the hands a few moments before they are slipped into the horse's mouth.

Torture follows the touch of a moist tongue to a frosty bit. Any man is at liberty to try the experiment for himself. Restlessness on the part of a horse may be explained if his teeth are examined.

When a horse comes in from a drive over muddy roads, the legs and hoofs should be carefully cleaned. If the horse is sweaty a light blanket should be thrown over the animal and left a short time to absorb the moisture. Then a heavier and warmer blanket may be substituted.

An abundance of light in the barn is essential. Most animals respond to the influence of sunlight. A light barn, too, is more likely to be a clean barn than one that is shrouded in semi-darkness. A little whitewash will go a long way.

All the manure should be saved with care. It is equivalent to cash. Plenty of bedding helps to conserve it and adds humus. Many good farmers have tanks into which the liquid manure is drained. No good farmers have a manure pile where the rain is going to wash away much of its substance. If there is no manure shelter, it is well to haul the manure directly to the fields as fast as made. In fact, the plan is a good one, anyway, unless the land is hilly and so likely to wash badly.

The pigs need to be kept warm and growing. It pays to cook the feed. The pigs will respond by making extra rapid growth, if they have comfortable quarters. They need charcoal.

AN IMPORTANT POULTRY MONTH

Particular attention is needed by the poultry this month. The days are short and the birds should be kept exercising most of the time they are off the roosts. This is accomplished by feeding them hard grain in a litter from five to ten inches deep. Straw makes the best litter, but leaves will answer, although they need to be renewed frequently, for they are quickly broken up.

If the weather is very cold, it may be necessary to fill the water dishes several times a day. The inexpensive fountains fitted with tiny lamps are an advantage, for the water in them will not freeze. The lamps will run several days without being filled.

It is well to have burlap curtains in front of the perches for use on excessively cold nights. They may be made to slide on a wire or may be tacked to hinged frames. They should be reserved for exceptionally cold nights only. In ordinary weather the hens are better off without them.

The droppings need not be cleaned from the dropping boards so long as they are frozen, for no odor arises from them then. Care should be taken to get them out as soon as they thaw. Many poultry keepers are now getting rid of their dropping boards and of a lot of work at the same time. They simply stand a single board on edge on the floor a little in

advance of the perches, and the droppings are confined to that space, falling into a thick covering of litter. Cleaning out once a month is then sufficient. There are several advantages and few disadvantages to this plan. It is really more sanitary than the use of the dropping boards, for the manure is much farther away from the birds.

If the supply of vegetables has given out, dried beet pulp may be substituted. It comes from the beet sugar factories and the grain dealers sell it. The price is low and it is used by many commercial poultry keepers. In appearance it is much like some of the prepared breakfast foods, but when soaked for a few minutes in hot water it swells and gives off a strong beet odor. If the hens do not seem to relish it at first, being new, a little grain and beef scrap may be mixed with it. Then they are pretty certain to eat it readily.

This is the month for making up breeding pens. It is a wise plan to mate cockerels with hens which are one or two years older. If one is keeping poultry for the eggs they yield, he should choose the hens which were the earliest to lay. No difficulty in identifying them will be found if they are marked by the method which will be explained in the program for November.

Some poultry keepers mate pullets with cocks one, two or three years older, but this plan has one disadvantage. If the pullets have been laying well all Winter, they will not be in

the best condition to produce strong, rugged chickens, and if they have not been laying well, they are not suitable birds to breed from anyway. When the heavy laying pullets of one year are kept over and not forced for laying, the second season, they are well equipped to give rugged chicks and to pass along the egg-laying tendency.

One point in making up breeding pens must be remembered—the male should have come from an egg laid by a heavy-laying hen. It has been shown that the male has a very strong influence in building up a strain of good laying birds.

While this plan of making up breeding pens is commonly adopted, yet on some extensive plants old cocks are placed with the pullets in the laying pens and the eggs used just as they come. On one important plant 100 Leghorn pullets are kept in a flock and cocks are put with them at the rate of one to every twenty-five. The fertility is high, too. Ordinarily, fifteen pullets to a cock is considered a rather large number. With the larger breeds, fewer females are used. When breeding pens are used, it is well to have two males, putting them with the hens on alternate days. When birds are being bred for show purposes, the pens are small and the matings are made very carefully in order to secure chickens of desired types. Experience and skill are required when mating fancy stock. In any case, the birds in a breeding pen should be selected and put together three or four weeks before the eggs are to be set.

If incubators are to be depended upon, a selection should be made at once. These machines entail a considerable investment and should not be purchased without some study of the different types and their characteristics. Many of the state experiment stations are ready to give advice and to make reports on results secured with different machines. At the end of this book is a list of all the state experiment stations, with their locations.

FEBRUARY

*Come now the lengthening days,
With drifting snow and mighty winds;
A short month, though, and quickly passed.*



FEBRUARY

WE MIGHT call February the pruning month, for there are many warm days in the average February, when the work of pruning the orchard trees may be undertaken to advantage. Midwinter pruning is often practiced, but it is much better to delay the work until this month. Severe freezing weather kills back the tender bark and the healing of the wounds is retarded. Peach and other fruit trees easily winter-killed should preferably be left until the buds start, or even until the blossoms have fallen, in order that the full extent of the damage done by Jack Frost may be ascertained. Perhaps there will be no need of additional cutting back.

The proper trimming of trees is a science. Lopping off a branch here and there in the haphazard manner often seen is not pruning at all; it is simply tree butchery. A tree is a living thing. The elimination of a single limb influences the growth of the entire tree. Winter pruning causes an increased growth of wood. Summer pruning adds to the number of fruit buds formed. Young trees are best trimmed a little each season, much of this trimming being merely the rubbing out of buds. Shortening back the branches, the removal of dead wood or

broken limbs and the trimming away of suckers will constitute most of the February work in an orchard which has been well cared for.

All trees must be kept headed in and the new growth properly directed. The object of pruning should be to keep the head low, in order that the work of spraying the trees and picking the fruit may be made as easy as possible, and open, so that the sunlight may reach all the fruit. Trees with a great mass of wood and foliage bear mostly on the outside branches. The rule is not the same for all sections, however. In the middle West, where the sun's rays are very hot, the trees are not grown as open as in New England or the Northwest.

When apple trees have been neglected and have grown out of all bounds, drastic February treatment is necessary. All the dead wood should first be cut away. Then limbs which cross must be removed. If left, they will chafe until a wound is made and decay will set in. Limbs growing straight into the air should, as a rule, be taken out, and when parallel limbs close together are found, good pruning demands the removal of one of them.

Farmers of yesterday commonly sawed off the lower limbs of their trees and left those in the top. Such high headed specimens are not practicable in these days of fungi and insect pests, and the renovation of an orchard containing trees of this character must be preceded by the removal of all the high

limbs, even though this means the literal decapitation of the trees. Future crops will be produced on wood forced from below. It is wise to spread this work over several years, for heavy cutting is naturally a severe shock to the tree. A miniature forest of water sprouts is pretty certain to appear the next summer, and they will have to be cut away. These water sprouts are not always an unmixed evil. Occasionally one is found located just where a bearing branch is needed. It, of course, should be allowed to grow.

It is important to know something about cutting large limbs before the renovation of an old orchard is undertaken. The cut should always be made close to the trunk or limb from which the branch to be removed grows and exactly parallel to it. There is no excuse for leaving a stump.

If a heavy limb is sawed entirely from above, it is almost sure to split down the bark when it falls. This is avoided by first making an under cut, which will cause the limb to make a clean break. A sharp, light pruning saw is needed. There is no place for an axe in the orchard. Every cut must be smooth.

Nature provides for the protection of wounds to some extent by causing the cambium layer to grow over them, sealing them up the way a glass of jelly is sealed with paraffine. If the wound is large, though, decay is likely to set in before the wound has been covered. The fruit grower helps Nature

by painting the wound with good linseed oil paint, which keeps it free from spores until it has time to heal. Every wound over an inch in diameter should be painted without fail. There is no better time for trimming shade trees.

Although it may be left until March if deemed desirable, the pruning of shrubs may also be done this month. This applies, though, only to the late-blooming shrubs. If those which bloom early were to be pruned, there would be but few blossoms, for shrubs in this class form their buds the previous Fall. Among the shrubs and vines to prune now are hydrangea paniculata, altheas, viburnums, rose bushes, honeysuckles and clematis Jackmani. The early flowering shrubs are to be pruned just after they bloom.

Shrubs often get more pruning than is good for them. With a few exceptions, they look best when allowed to grow naturally and the knife needs to be used only to cut out dead wood and to remove a little of the new growth, if very heavy. Nipping of the ends is to be avoided. When cutting is to be done, let it be at the base of the plant, taking out an entire cane.

Hydrangea paniculata differs somewhat from most shrubs. It is most obliging in its habits and may be cut and trained in any way desired. It may be grown as a dwarf or as a tall shrub, trimming being done without hesitation.

In some parts of the country roses may be trimmed this

month. In other sections it is better to wait until March. Most of the roses need cutting back at least one-fourth, often more. The weaker the plant the more severe should be the pruning and the canes should be cut back carefully to a point just above an outside bud. Climbing roses do not require much trimming. Removal of the old wood and a slight cutting back is sufficient. The pruning of shrubs is worthy a little study, for the different sorts have quite different habits.

Orders for fruit trees, shade trees and shrubs should be placed at once, if they have not already gone to the nursery-men. Delay is likely to mean disappointment.

By the last of the month the manure for the hotbeds should be drawn. Fresh horse manure is the kind needed and if it contains about one-third straw, so much the better. For best results it should be piled under cover and turned every other day for a week. If it does not begin fermenting at once, a few pailfuls of hot water may be poured over the pile. Turning will make the fermentation uniform and keep the manure from burning. Commercial vegetable growers start their beds in February. Washington's birthday, the 22nd, is considered the proper date for sowing tomato seeds. In the home garden, March will be early enough to begin operations.

It is well to look over the various fruit trees around the place in order to detect the nests of insect pests. In New England many brown tail and gypsy moth nests will be discovered,

without doubt. They must come off. The tent caterpillar has a much wider range and is not so easy to detect. The eggs are laid on the tips of the twigs and covered with a smooth substance like varnish, which protects them from the weather. Fortunately, spraying early in Spring with arsenate of lead for the codling-moth will kill these pests. If left to themselves, tent caterpillars when numerous will strip an orchard clean.

This is also a good time to look for black knot on the plum trees. It is indicated by a swelling and must be dealt with promptly. The best plan is to cut off the affected limb a foot below the swelling, the part removed being burned.

If there is snow on the ground, it is advisable to tramp it firmly around the trees to keep mice from lodging under it and feeding on the bark.

Snow on the bee hives will help to keep the inmates warm, but it must be kept away from the entrance. Otherwise ice may be formed and the air supply cut off. Bees need air, even in winter.

It is wise to look over the apples and potatoes this month, those which are not keeping being promptly removed. It is really worth while buying a little kitchen evaporator for using up fruit which is not keeping well, if one has a considerable quantity. A small cider press may also be used for working up apples which are beginning to decay.

It will stimulate the rhubarb to give the plants a heavy

dressing of old manure late in the month. A few early stalks for the cook may be secured by placing boxes over several roots, heaping fresh horse manure over the boxes to force the growth. Roots dug from the garden in the Fall and frozen, may still be forced in boxes in the greenhouse or a heated cellar, being kept dark.

In many of the Southern states, fruit trees as well as strawberry, raspberry and blackberry plants, may be set out this month.

GREENHOUSE AND WINDOW GARDENS

February is none too early to sow seeds of bedding plants, when a greenhouse is available. Asters, hollyhocks, cosmos, ageratum, cockscomb, petunias, salvia, Drummond's phlox, snapdragon and forget-me-nots are among those recommended.

Sweet peas, stocks, mignonette, may be started for blooming in the greenhouse before there are flowers out of doors. The asparagus ferns may be started, too, to provide plants next winter. This is also true of the cheerful looking Jerusalem cherry. New aspidistras may be secured simply by dividing the roots of a well established plant.

Cuttings from fuchsias will make good plants for next season. In fact, this is a good month to make cuttings from many plants,—better than January, for there is more light.

Cyclamen is one of the very best plants for house decoration this month. Not only does it make a splendid display in pots, but the flowers will last a week or more in water. They are very handsome on the dining table and a few plants are worth growing simply to furnish cut flowers. It is better not to actually cut the blossoms, but to remove them by twisting off the stem.

Flowering bulbs may still be forced. The double tulips force better now than earlier. Some of the seedsmen sell bulbs in pots ready to bring into heat. They are not expensive and in this way it is made very easy to have flowers all winter. Usually the bulbs may be forced without trouble if kept in a room which is not excessively warm and not placed where the plants will be in a draft or exposed to hot blasts, as from a register or fireplace.

This is an excellent month to repot the palms. The mistake often made of increasing the pot several sizes is to be avoided. Unless considerable growth has been made, the plants may be replaced in the same pot.

Forsythias, lilacs, flowering almonds and even fruit tree branches may be flowered in the house if brought in the latter part of the month. Branches with well developed buds should be cut and placed in water in a sunny window. The forsythia is the easiest and quickest of the shrubs to bring into flower in this manner.

A start with vegetables may be made by planting lettuce, cabbages and cauliflower in the greenhouse, the plants to go to the cold frames when large enough.

In the South, gladioli may be started this month in the open ground and many seeds sown in cold frames. Pansies may be sown where they are to flower. Most of the hardier vegetables may be started in the course of the month, and even cucumber and melon seeds may be sown, if garden frames can be used over the young plants.

STABLE AND LIVESTOCK

Many young pigs will come into the world this month and next. It is best to wean the youngsters when six weeks old and to let the sow run with the boar at once. Even young pigs may be fed corn this cold month and a diet containing potatoes and other vegetables will help keep the mature animals contented when closely confined. It should be remembered that hogs suffer when exposed, like other animals.

The young calves will also begin coming this month. If they are to be dehorned by the caustic potash method, the work should be done when they are from two to five days old. The hair is clipped away from the budding horn and a space as large as a cent is moistened, but not enough so that the caustic will run over the skin. A caustic pencil is used, generally being wrapped in paper to protect the hands, and is rubbed

thoroughly over the horn bud. A scab is formed, which drops off in about a month, and the horns do not grow. It is distinctly an advantage to have all the cattle on a country place without horns.

What was said in January about ventilation applies with equal force this month. Many regulations, some of them hardly more than fads, have been made to secure pure, clean milk, but the facts have been established that the chief requirements are light, well ventilated stables, clean cows and clean milkers. Without doubt the cows should be groomed every day, and it is well to have this work done at stated hours. Cows are creatures of habit to an exceptional degree and thrive best when cared for by the clock. Before they are milked, the udder should be wiped off with a damp cloth and the first stream should go into a special receptacle, to be fed the pigs or thrown away. The milk yield can often be increased by studying the individual needs of the animals, rather than feeding them all alike.

Early lambs require particularly careful handling. Those that come in February will need a warm stable, possibly with a little artificial heat. They will be able to endure more cold when a week old and when two weeks old may be castrated. Sheep are profitable where they can be safely raised. The dog nuisance seems to be the greatest stumbling block.

A man may be fortunate in his dogs, as in his friends.

Some dogs are well worth keeping. Others are a menace and a detriment. Probably the first choice of a farm dog would lie between a collie and an airedale terrier. When a home protector and friend is wanted, the best plan is to buy a spayed female. Such a dog will not wander away, will not pick up quarrels and will not attract other dogs.

Never should a horse be permitted to stand unblanketed after a hard drive at this time of the year. If there is no blanket at hand, the animal should be walked about until cool or else stabled in a warm barn.

It is an excellent plan to give the horses a bran mash once a week, say on Saturday night. The way to make the mash is to turn boiling water into a bucket, the bran then being mixed into the water, and a little salt added. The bucket should be covered and the mixture allowed to steam for two or three hours or until cool enough to feed. It is not well to feed the mash on an evening before a long drive is to be made.

FEBRUARY IN THE POULTRY YARD

The incubators should be set up and made ready for use this month, even though they are not to be heated before the first of March, which is early enough for setting the eggs of any of the breeds except the Asiatics—the Cochins, Brahmas and Langshans. Eggs of these heavy breeds should go into the machines this month.

It is none too early to put in orders for hatching eggs, or day-old chicks. It is worth noting that many breeders have stopped hatching at home, and are either sending their eggs to custom hatcheries or buying day-old chickens. The coming of mammoth hatching machines, accommodating from 1,200 to 20,000 eggs at one time, has practically revolutionized poultry keeping. Immense plants are devoting themselves to the sale of chicks just out of the shell, some of these plants selling as many as 100,000 youngsters in a season. The price runs from ten to forty cents each, depending upon the stock. There is usually a gamble in buying day-old birds, unless the buyer is acquainted with the flock from which the eggs came. The chicks may turn out well and they may not. Breeders who are known to have high class stock may be dealt with, of course, without much fear of getting poor birds. They are likely to be flooded with orders though, for March, April and May delivery.

The man who wants to hatch from his own eggs but dislikes to bother with broody hens or an incubator may send the eggs by parcel post to hatching plants which feature custom hatching. He pays a small fee and gets his chickens by express when they are ready for him. Both professional poultry keepers and amateurs are falling into the habit of having their eggs hatched in this manner. There are now hatching concerns in most communities.

In some localities there is a steady demand for broilers and the best prices may be secured if the incubators for hatching the eggs are started early in the month, in order to have the chickens out about the first of March. Then the machines may be filled again and the pullets from the second lot of chicks kept for layers, the cockerels being marketed.

Eggs to be used for hatching should be gathered several times a day, in order that they may not be chilled. They are best kept at a temperature between forty and sixty and it is not wise to set eggs which are much over two weeks old.

If the litter on the floor of the poultry house has been packed hard, it should be renewed. It is very necessary to keep the hens exercising, and there is no better way to accomplish this object than to feed grain in a deep litter.

Glass windows should be washed and muslin curtains cleaned. These curtains give little ventilation when the pores are filled with dust; and dust collects upon them very quickly.

If a start with ducks, geese or turkeys is to be made, eggs or breeding stock must be ordered at once. Geese should really be mated up in the month of December or earlier, and it is better to buy eggs rather than breeders at this season. Toulouse and Emdens are the two popular breeds. The former are white and the latter gray. Both weigh about twenty pounds. White or Brown Chinese geese are classed among the ornamentals, but are really very good table birds.

Gray African geese are not commonly considered profitable for market, but are among the best for home use, as the meat is fine of fibre and excellent in flavor. Both the Africans and the Chinese geese have peculiar knobs at the base of the bill.

If they have wide range, geese are very easy to raise and the owners of many country homes with meadows, marshes or rough pasture land make a mistake in not keeping a flock of these birds, which graze much like cattle and require only a little shelter from hard storms.

As only a few eggs are laid, they are rather expensive—25 cents apiece. They are large, too, and a good sized Plymouth Rock hen can hardly cover more than six or seven. From 28 to 30 days are required for incubation and it often is necessary to help the goslings out of the very tough shells. It is customary to hatch the earliest eggs under hens and to let the goose incubate the last clutch.

Among the ducks, Pekins, Indian Runners and Rouens are raised in considerable numbers and their popularity ranges in the order given. Indian Runners are constantly growing in favor, though, and promise to take the lead eventually, except on large commercial plants.

There are three varieties, fawn and white, penciled and pure white. They are not large, and are inferiors of the Pekins when meat is the object, but as egg producers they are wonderfully prolific, being termed the Leghorns of the

duck family. From 125 to 200 eggs a year may be expected from each duck in a good flock. The eggs are white, or should be, and run six to the pound. Some strains lay many green shelled eggs, and when the beginner buys either stock or eggs for hatching, he should be particular about this point. The hatching period is 28 days and hens or incubators may be used. Ducks occasionally become broody, but cannot be depended upon.

The White Pekin is the market duck. On some large plants from fifty to a hundred thousand are raised each season. They are marketed when they are ten or eleven weeks old, at which age they should weigh five or six pounds. These ducks are very fat and there is much waste when they are prepared for the table. When raised for one's own table it is better not to force them so hard. Dealers frankly call the fat young ducks "gold bricks." Growing ducklings for market is a profitable but highly exacting business. Rouens are good ducks for farmers to raise, for they require but little care and the meat is excellent. The plumage is dark.

In February and early March the breeding turkeys should not be fed many beef scraps or much other nitrogenous food which would be likely to induce early laying. The last of March or early April is the time for turkey eggs to come. Usually there is wet weather late in May and it is well if the turkey poults do not come out of their shells until after that

period. The first of June is early enough. When eggs are to be purchased, they may be ordered now, but later delivery should be arranged for. The beginner, at least, is pretty certain to fail with early hatched turkeys.

MARCH

*“The stormy March has come at last,
With wind, and cloud, and changing skies.”—Bryant.*



MARCH

MARCH is a wonderful month; the month when Nature, awake from her long sleep, gives her rich treasures again into the hands of men; the month of plowing and harrowing, of bonfires and garden renovation; the month to make lawns and plant the hardiest of the vegetables—a very busy month, indeed, for the maker of gardens.

One can not specify definitely all the work to do in March. Much depends upon the season, for March is a most fickle month. It may be possible to get the garden into perfect condition for planting. On the other hand, much of the work may have to go over until April. It is not well to be hasty in uncovering protected shrubs and beds. The litter from the bulb and strawberry beds is best removed gradually, at any rate. Strawberry plants which may have been raised by the frost should be pressed back with the foot. It is an excellent practice to pull the straw from the beds into the rows between the plants to mulch the ground and keep the berries from the earth.

In severe winters privet hedges are often badly damaged. In order to save these hedges they must be cut back to living wood. This often means only stubs a few inches long. No

other treatment is necessary, except that the burning of leaves along the hedge rows must be avoided. Plants that have been cut back are easily killed by the heat.

This is one of the best times to spray the orchard trees for San Jose scale. Lime sulphur wash or miscible oils may be used. With only a few trees it is best to buy prepared mixtures. In many sections men with the necessary apparatus can be hired to do the work. The job is a dirty one and to be avoided when possible. On large estates and farms a spraying outfit is indispensable. A barrel pump on a wagon is convenient.

New lawns may be made and old lawns repaired. The seed is very hardy and may even be sown on the last snow. The proper making of a new lawn is not a matter to be undertaken hastily. Many lawns are midsummer failures because they were not well made. Good soil is imperative. If it is not already on the plot to be seeded, it must be hauled there. Also, it must be cultivated deep and well—and the earlier the better. With sod land, it is well to grow a crop of potatoes one season, to get the ground into a satisfactory condition of tilth. Deep culture will encourage the grass roots to burrow down where they will be safe from the scorching rays of a summer sun.

Making the plot perfectly smooth is a job for an expert. An iron rake and a roller are needed. It is easy to detect

uneven spots on ground which has been rolled. The addition of well rotted manure, pulverized sheep manure or a good commercial fertilizer will give the grass something to feed on for years.

Only the very best seed should be sown. The best is none too good, and to buy poor seed is but to throw one's money away. On the whole, there is no better plan than to buy a seed mixture from a reliable dealer. For special situations, like shaded spots, terraces and tennis courts, there are special mixtures made of grasses best suited for such places.

When a large lawn is to be made, it may pay to buy separate seeds and mix them. A good mixture is composed as follows: Kentucky blue grass, 9 lbs.; Rhode Island bent grass, 3 lbs.; red top, 4 lbs.; English rye grass, 3 lbs.; white clover, 1 lb.

Mr. Leonard Barron in his book on lawns recommends the following special mixtures: For shady places—Kentucky blue grass, 8 lbs.; crested dog's tail, 2 lbs.; wood meadow grass, 4 lbs.; various leaved fescue, 2 lbs. For sandy soil—Kentucky blue grass, 5 lbs.; creeping bent grass, 6 lbs.; Rhode Island bent grass, 6 lbs.; fine leaved fescue, 3 lbs. For clay soils—Kentucky blue grass, 10 lbs.; English rye grass, 4 lbs.; tansy red top, 6 lbs.

A still and preferably a dull day is to be chosen for sowing grass seed, which is very light. The earliest hour of the day is likely to be the quietest. It requires some skill to distribute

the seed evenly, though conditions be perfect. For large plots, a seed sower working automatically is needed. When the hand is used, it is wise to sow first lengthwise and then crosswise the plot.

After the seed has been sown, an iron rake may be used to work it lightly into the ground. Then the roller should be brought into play. A roller is of great importance in making a lawn and in keeping it in condition. It should be a heavy roller, though, in order to do good work. If it is heavy enough to require the muscle of two men, so much the better.

At this season there is likely to be rain in abundance, but if it does not come, watering will be required, for the grass plot should be kept moist until the surface of the ground is covered with a fine green mist. An examination at this time will show any bare spots, calling for extra seed.

Old lawns in need of repairs may be renovated in several ways. Sometimes the best way is to plow it up and start over, but even a poor lawn may often be improved by mixing sheep manure with good loam and scattering the combination an inch deep over the grass. The iron rake should then be used to work the loam and manure well down into the grass, which will quickly grow through it. The sowing of additional grass seed may be a help.

Most lawns several years established are benefited by an application of pulverized sheep manure or commercial ferti-

lizer, but feeding of this character is really necessary when the grass shows signs of running out or when lack of vigor is shown by the appearance of weeds. A thrifty lawn will crowd out most weeds. If there are bare spots, they should be covered with good loam and grass seed sown thickly. In all seeding, it is a mistake to be niggardly in the amount used. Use of the roller in the Spring is beneficial, on new or old lawn.

This is a good time to gather all the rubbish, tree trimmings and the like and to make a lively bonfire on a quiet day. This fire should be in an open spot and not under trees, for the latter are easily injured by intense heat.

Grafting unsatisfactory trees may be done just before the buds swell, but the scions should be cut while the weather is still cold and buried in sand in a cool cellar or possibly buried in the field. Grafting is a great aid to the fruit grower. When trees are found which produce fruit of inferior quality or of a variety not adapted to the location, it is a simple matter to make grafts; in three years fruit of the desired sort will be borne, if the operation is a success. It is possible to have a dozen varieties of apples on one tree, and amateurs who have only a few trees often find it an advantage to graft several different varieties on them. Farmers with many trees often increase their profits by grafting on varieties which are in greater demand than those they have. Of late many orchards have been grafted wholly or in part to McIntosh Reds.

Even wild plum trees along the fence rows may be made to produce palatable and marketable fruit. Beurre Bosc pear, which is a rather hard variety to grow, may be grafted nicely on some more common sort. Old trees are often entirely changed over by top working, which means grafting all the main limbs and gradually cutting away all the old head.

Scions come best from wood of the past year's growth and from the ends of bearing branches. They should come, too, from prolific trees bearing fruit of the highest quality. This is important. The best limbs to graft are from one to three inches in diameter and should be cut off square at the time of grafting. A grafting knife will be needed for inserting the scions, one end having a wedge. The knife is first used to split the limb just enough to receive the scions, after which it is knocked out and the hook used to hold the cut open.

Good scions should be about five inches long, a quarter of an inch thick and contain three to five buds. The lower end must be cut into a wedge, with a single clean stroke on each side with a sharp knife. The wedge may be an inch or an inch and a half long and one side should be a little thicker than the other. The scions are to be prepared just before using, in order that they may not dry out. Two scions are inserted in each stub, one at each side, the thicker edge outward. The purpose should be to have the inner bark of the graft and that of the stub touch. It is there that the two are to unite.

When the scions are in position, the wedge is removed and the cleft holds them tight, there being special pressure on the thicker outer edge.

The graft once made, every precaution must be taken to bind up the wound so that decay will not set in. Grafting wax is relied upon for this purpose and may be bought ready made. The wax must be soft, even if it has to be melted, and it can be used easily only when the hands are well greased. Every crack and crevice must be filled with the wax, with a little laid around the scions at their base and a bit on the upper end. An additional application of wax may be needed for several seasons.

If both scions start to grow, one must be cut away in mid-summer, preferably, of course, the weaker one. By using two at the start, the chances of success are doubled, but one only must grow into a limb. The average man can do a job of grafting after reading these directions, but it will be much better for him to watch an experienced man at work before he goes ahead.

GREENHOUSE AND WINDOW GARDEN

Plants from cuttings rooted in February will be ready to shift this month. Propagating may still be continued. Bouvardia is easily started from root cuttings in bottom heat, treated like seeds. Plants for bedding may be made from

geraniums and lantanas. To propagate violets it is only necessary to separate the rooted runners from the old plants. They should be potted up and planted outdoors in April or May.

If lilies in the greenhouse are wanted for Easter and seem backward, more heat must be given them. They must be kept free of lice at all events.

Flowering bulbs may still be forced in the house. More people should try the tulips, for they make a splendid display at a season when bright colors are to be appreciated.

Many people throw away their azaleas when they have finished blooming, but this is not necessary. If plunged in a shaded spot in the garden and given a little water, they will bloom well the next season and even for several seasons. It hardly pays to carry cyclamens over, however. Another planting of lettuce and radishes may be made in the greenhouse.

OUTDOOR GARDEN WORK

March is the month for starting the hotbed, a great help in getting an early garden. It should be put into operation the first week, even in the northern states. A cold frame, which is a duplicate of the hotbed, except that it has no bottom heat, often may be started before the end of the month, depending on weather conditions. Less work is involved in preparing a cold frame and most amateurs will find it satisfac-

tory, if they can start the seeds of a few plants in the house. With a hotbed, however, it is possible to have lettuce and radishes for the table before they can be planted outside.

Sash for hotbeds come in a standard size, 3 x 6 feet. "Pony" sash, which are half the standard size, are also made and are easier for women to handle. There are both single and double sash. The latter cost more but may be used without mats, such as are needed for single-glass sash on cold nights. Sash are often bought open and the glass put in at home. When this plan is followed, mastic putty should be used, as it hardens very quickly. Single-glass sash complete ought to be bought for not over \$2.50.

Any number of sash may be used side by side, the size of the hotbed being governed accordingly. A two-sash bed, which is just six feet square, will be large enough for starting a great many plants. It is not a bad plan to divide the bed, in order that one side may be kept a little cooler than the other. Such vegetables as tomatoes, peppers and egg plants need more heat than cabbage, lettuce, cauliflower and similar kinds.

The same end is attained by starting the seeds in pots or shallow boxes, for then the plants may be shifted to the warmest or coolest spots in the bed at will. Paper pots and dirt bands may be used to great advantage and cost but little. The plants grown in them may be set in the garden without removing the pots or bands, which will prove a barrier to cutworms.

The bottoms need merely be torn from the pots; the bands are bottomless.

When making a hotbed it is best to dig an excavation 30 inches deep and a little larger than the area of the proposed bed. If the ground should be frozen, manure may be heaped up two feet deep and the frame set on that. It is much better to have a pit, of course. Commonly stout stakes are driven at the corners and the planks for the frame spiked to them. It is best to have the frame about two feet at the back and 15 inches in front, the slope being toward the south or south-east, in order to capture all the rays of the sun. If it should be desired to take the frame apart in summer the corners may be fastened together with bolts. It is well to have the frame extend into the ground about three inches. In permanent beds, sub-frames are often constructed. They may be of plank or brick or cement. All-cement frames are beginning to be used.

Heat for the bed is to be supplied by fresh horse manure, preferably mixed with some straw or leaves, for then the heat lasts longer. The manure is best piled under cover for several days and turned a number of times to secure even fermentation. If it does not heat readily, a bucketful of water may be thrown over it.

When ready, the manure should go into the bed and fill it. Throwing it into the pit a layer at a time is best, each

layer being well trodden. To be just right, the manure should contain enough litter to make it a little springy under the feet. Good soil to a depth of six inches is needed over the manure. With the bed filled, the sash are to be put on and left until the heat has dropped to 80 degrees, a thermometer being driven into the soil. In two or three days the bed will be ready for planting the earliest seeds. Tomatoes, egg plant and peppers will need to go in at once to give garden plants. Radishes, lettuce, peppergrass and mustard may be matured in the bed. Three weeks will give cuttings of grass and mustard. But little longer is needed for the early forcing radishes. Set onions may be had in a month.

A hotbed must be watched, water applied intelligently and ventilation given on every fair day. It is best to leave the sash raised a crack at all times, when the weather is at all warm. Gardeners use a brick for raising the sash, placing it flat, on its side or end, according to amount of ventilation required. Plants must not be allowed to grow spindling.

Often a cold frame is used as an adjunct to the hotbed, started plants being shifted to it from the latter. All the plants named may be sown in it, however, when the weather has become sufficiently mild. When only a cold frame is used, tomatoes, peppers, egg plants and celery may be started in boxes in a kitchen window, the plants being transferred to the frame when large enough.

Early flowers of many varieties are to be enjoyed only when the seeds are sown under glass, either in a hotbed or a cold frame. China asters, pot marigolds, candytuft, snapdragon, gypsophilia, stock, nitociana, salpiglossis, godetia and many other flowers are included in the list.

After a hotbed has served its purpose of starting early vegetables, the sash may be put away and the uncovered beds used for growing melons or cucumbers to maturity. Feeding on the exhausted manure, the plants make very rapid and strong growth, usually being much ahead of those in the open. Of course it is not necessary to have either a hotbed or a cold frame in order to start plants early. Boxes and kitchen windows have been relied upon for generations. It is well, however, not to start the seeds quite so early as when the outdoor accessories are to be used. Otherwise, they get too large or become spindling.

Peas are the earliest seeds for the open ground. The smooth sorts are a little hardier than the wrinkled varieties and may be planted earlier. Spinach may go in at about the same time.

The asparagus bed should be dressed with bone meal or a ready mixed fertilizer. Manure may be used, but is likely to introduce weed seeds. Onion sets may also go in early. Much depends upon the season, whether cold, warm, wet or dry. It is foolish to work the ground when it is sticky. In-

deed, it is possible to ruin a garden by being in too great a hurry. Plowing the garden a little deeper than last year will add to its fertility.

Harrowing is very important and an effort should be made to get the soil fine. Much may be done with an iron rake to give a finishing touch to the work. Manure is needed, of course—lots of it. One need have little fear of getting on too much. Well rotted manure is much to be preferred, especially for root crops and particularly for potatoes. Fresh manure will answer if it is drawn on early. It is best well distributed as near the first of the month as possible and turned under when the garden is plowed.

Many times garden and farm seeds prove a disappointment. Seed testing is always wise, and where a large plot is to be planted should certainly not be neglected. Count a hundred seeds of each variety, fold them in a strip of blotting paper and insert the paper in a pan of moist sand, and the test is easily made. If the sand is kept moist and warm for several days, possibly a week, the best of the seeds will have sprouted. If at least 75 of each 100 seeds have not started into life, there is something wrong.

In order to have very early gladioli the corms may be planted in boxes of earth this month and kept in a cool, shaded place indoors. The plants should not be set outside until danger of frost is past, but the gardener who tries this plan

will surprise his neighbors with gorgeous blooms before their plants have shown a bud.

Usually sweet peas may be started this month. Rich soil is needed and should be thoroughly worked for perfect flowers. Sweet peas are rather fickle and like to be coaxed. Good garden makers dig a trench six inches deep, plant the seeds and cover them with two inches of soil, gradually filling the trench as the plants shoot up.

Annual poppies are very robust, but dislike being moved. They may be sown this month where they are to flower. The newer varieties are wonderfully fine and glorify the garden all summer, if several later sowings are made.

Late this month canna roots may be started indoors, being separated and the pieces, each with some of the crown attached, planted in boxes or large pots.

In the Southern states, all the tender vegetables and flowers may be started in March.

STABLE AND LIVE STOCK

Spring clipping of horses is much better than fall clipping, in spite of custom. Any one who has seen a clipped horse in zero weather may be pretty certain of the animal's opinion.

The wise and humane farmer makes certain that the collars worn by the work horses fit. By so doing he saves the animal from having sore shoulders, which are commonly seen

at this season. Bathing the shoulders after the harness has been removed is worth while, and the collars should have a daily cleaning.

Dusty hay is often found at this season. It is bad for horses unless dampened before fed.

It pays to give the cows plenty of exercise and fresh air. They need it after the winter's close confinement.

What to feed the cows often bothers new farmers. Half meal and half ground oats by weight, then half bran by bulk, is a standard formula and a good ration to be fed with hay. Gluten and similar high protein feeds must be used with care, but have their place in the commercial dairy.

Cold skim milk is not advisable for young calves, at least until they are six months old. The milk is needed, but it should be warmed. When teaching a calf to drink, there will be less trouble—and possibly less strong language—if a pan instead of a pail is used. The calf is frightened to find its head in a pail. March calves sell when veal is high.

After lambing, the ewes may be fed a handful of shelled corn to a pint of oats a day. Lambs coming this month will be worth a long price, if pushed.

Oats and bran, with a very little corn, make a good ration for the brood sows. Warm farrowing pens are needed and a little help at farrowing time may be required.

Some lambs may well be kept to renew the flock. Usually

sheep are not profitable after five years. Good ewes should give ten pounds of wool when sheared.

A BUSY MONTH FOR THE POULTRYMAN

This is the amateur's hatching month. Eggs of such breeds as the Plymouth Rocks, the Rhode Island Red, the Wyandottes and the Orpingtons should be set the first week; those of smaller breeds like the Leghorns and the Anconas a week or two later. The pullet which is hatched early—but not too early—will make the winter layer.

If an incubator is used, it should be run a day or two before the eggs are entrusted to it, and carefully regulated. Also, it should be placed where the temperature is equable, where direct sunlight will not fall upon it and where it will not be exposed to drafts, but where the ventilation is good. A house cellar is often the best place, if there be no special incubator cellar. No wise breeder will start his machine in such a situation, however, until he has obtained a permit from his insurance company, costing him a small fee.

As a rule, it is best to use a machine holding at least 120 eggs, for it will require no more attention and little more oil than a smaller machine. When the egg chamber can be held at 103, the eggs may go in. The operator should be very sure about his thermometer; they sometimes go wrong. It may be tested by comparison with others.

A day or more may be required for the eggs to become heated and the temperature will run low until then. Then the thermometer should be held at 103 for the 21 days of the hatch. With duck eggs, the machine is often run half a degree lower until the fourth week, 28 days being required to bring out ducklings. An occasional variation of a few degrees is not cause for alarm and it is a mistake to throw eggs away until one is sure they will not hatch. Embryonic chicks get a sturdy hold on life after the first week of incubation.

After the second day the eggs should be shifted about with the hand night and morning. Air may be given at the same time and the eggs are usually removed on their tray, the door of the incubator being closed. At first they should be out but a short time. After a week more air is needed and especially when the weather is warm. Some breeders place a thermometer on the eggs when they have been turned and restore them to the machine when the mercury drops to 85.

The 18th day is the last for turning and cooling the eggs. It is then time to close the machine with a determination to keep it closed until the chicks are out of their shells. Helping out weak chicks seldom pays. On the other hand, it is often necessary to assist ducklings, for the shell membranes are very tough. In very dry climates it may be well to sprinkle all eggs with water at a temperature of 103 before hatching begins.

On the seventh day of incubation the eggs are to be tested by holding them between the eye and a strong light, a simple device being supplied with all incubators. If infertile, the egg will be clear; if there be a chick in it, an opaque spot will indicate the fact. On the seventh day lines may be seen radiating from this spot. An egg with a dead germ will not be clear but will have no blood lines. Such an egg is worthless, but the infertile eggs may be saved and boiled hard for the young chickens' first meals. Commonly a second test is made on the fifteenth day. Eggs are often pipped on the twentieth day and the chicks should be out by the end of the twenty-first. With a good hatch, the shells break in the middle and the youngsters all appear pretty close together. Yet hatches are often delayed. The chicks should be left in the incubator until thoroughly dry. Meantime, the brooder may be made ready for them.

Running an incubator is not difficult, if the machine is a good one, but no necessary duty must be overlooked. The best oil is needed, the lamps must be scrupulously clean and the wick trimmed daily. There should be a new wick at the beginning of each hatch. A very helpful device is an electric alarm connected with a bell at the head of the operator's bed. If the temperature runs too high at night, the bell sounds a warning.

It is not a bad plan to set several hens at the time the incu-

bator is started. At the end of ten days, fertile eggs from under the hens may be placed in the machine as a substitute for those tested out.

Several hens should always be set at the same time, in order that the chickens may be doubled up and given to one or more hens. It is foolish to have a hen running with only half a dozen chickens—perhaps only one.

It is well to test eggs under hens as well as those in machines. If many are tested out, two clutches may be combined and one hen released.

Amateurs often neglect one most important point, which is dusting of the hen with lice powder. Hundreds of hens die on the nest every season from the plague of lice. This is both cruel and unnecessary. Dusting every week will keep the vermin down.

The sitting hen should have access to food, water and a dust bath. Corn is the best ration.

APRIL

*“Sweet April! Many a thought
Is wedded unto thee, as hearts are wed;
Nor shall they fail ’til to its Autumn brought,
Life’s golden fruit is shed.”—Longfellow.*



APRIL

A WONDERFUL month is April. Nature then seems intent on but a single mission, to cover the whole earth with a carpet of green and to renew the life of every tree and flower and garden plant. April to the garden maker is a month of toil, the planting month, when the hopes and desires of a winter's breeding are buried with the seeds to spring up later in the fruits and flowers of summer's harvest.

Usually there is much to be done around the house and grounds, too,—gutters to be cleaned out and minor repairs to be made. In many sections it is found that the red squirrels do no little damage in winter, which means that they should be driven from the neighborhood. Pert and saucy as they are, they must not be included among our pets, for they prey upon the friendly birds and are mischief-makers in general. Fences should be repaired this month and barns whitewashed. In fact, April might well be called the renovation month.

The general farmer finds much work afield at this season. As a rule, all the plowing and harrowing may be completed. Oats, wheat and barley should be sown, even in New England. Oats and peas make a valuable combination, providing fodder for the cattle and straw for winter. The oats and peas often

are fed directly from the field, where the cows have no pasture. It is customary to sow a bushel and a half of peas to the acre, plowing them under about three inches. After that, the oats are drilled in at the rate of a bushel to the acre.

AROUND THE GROUNDS

This is a splendid month for planting shrubs around the home grounds, for they will then get a good start before hot weather comes. There are good shrubs in great variety, but perhaps no better list can be made than the following, giving flowers practically the summer through: Forsythia, Lilacs, Tartarian Honeysuckles, Japanese Quince, Spireas, Weigela, Syringa, Hydrangea Paniculata, Viburnum or High Bush Cranberry, Japanese Barberry, and Althea or Rose of Sharon.

Shrubs usually look better when massed along the sides of the garden or in a corner or possibly against a building. Hydrangea Paniculata is very commonly grown as a specimen and makes a gorgeous show. Japanese Barberry is one of the best hedge plants. Wherever planted, the ground should be thoroughly worked over. It is useless to stick a shrub into a hole in the sod and expect it to grow.

Box and privet hedges should be trimmed this month, preferably before they start to grow. This is a good month to plant a hedge, too, and the best hedge plants are undoubtedly Japanese Barberry and California Privet. The latter grows the

taller. Usually a barberry hedge may be allowed to "gang its ain gait," as the Scotch say, but a privet hedge will need constant shearing to keep it trim and neat. Arbor vitæ is best for an evergreen hedge. A point commonly overlooked when planting a hedge often brings embarrassment later. All these plants have a wide spread and unless they are set well back from the sidewalk they will soon grow over the line.

Evergreens may be set out more successfully in April probably than at any other time in the year. As a rule they are given no heading back.

It is advisable to dig around all the lawn trees in order that they may not become choked, and then to mulch them. If the soil is at all stiff, it will be found an advantage to dig in some coal ashes. A few shrubs may be trimmed this month, but not those which bloom early. It is advisable, however, to cut away the suckers which spring up around the Persian Lilacs or the bushes will soon become a tangled mass. It is necessary to go slow in trimming the roses, but the work should not be left until they send out shoots. Often many suckers may be dug up from around the Wichuriana roses and set out in other places around the grounds to make new plants.

IN THE VEGETABLE GARDEN

It is a mistake to plant the vegetable garden, as many amateurs have learned to their sorrow, before the soil has been

thoroughly prepared. It is wise even to wait a week or two in order to secure this result. Most of the hardier vegetables may be planted this month even in the northern states. The list includes peas, beets, carrots, turnips, parsnips, salsify, spinach, potatoes, lettuce, radishes, Swiss chard and curly Scotch kale, along with started lettuce, onion and early cabbage plants from the cold frame. Early cabbages can stand more cold than is generally supposed and may be set out as soon as the ground can be worked. Even a flurry of snow will do the plants little or no harm.

If one is in doubt about varieties, the following may be selected with reasonable assurance of satisfaction: Beets, Early Egyptian; Swiss chard, Lucullus; cabbage, Surehead, Copenhagen Market, Drumhead, Savoy and Danish Roundhead, the latter being particularly good for winter; carrot, Danvers' Half Long; lettuce, Big Boston, Grand Rapids, May King, Wayahead, Black-seeded Tennis Ball and Salamander, the last for midsummer; parsnips, Student; peas, Gradus, Nott's Excelsior, Alderman, Stratagem and Telephone; spinach, Round thick-leafed and Longstanding.

It is worth while planting peas and early potatoes just as soon as the ground can be made ready. Even if there is a frost or two later, no harm will be done and the crop will be ready at a time when these vegetables are scarce and high. Most vegetable gardens will profit by an application of lime

to be harrowed in, but it is just as well to omit the lime where potatoes are to be grown. To prevent scab on potatoes, suspend them for an hour and a half in a coarse sack or basket in a solution made by dissolving two ounces of corrosive sublimate in two gallons of hot water with enough cold water added, after the mixture is cold, to make fifteen gallons. After removing the potatoes, spread them out to dry.

Extra early potatoes may be secured by sprouting the tubers in trays or on the floor in a warm, light room before the ground is ready. Sowings of lettuce, cress and radishes may be made every two weeks from now on to insure a constant supply. Leeks have a flavor which is more delicate than that of onions. The seeds should be sown in rows about six inches apart and one inch deep.

In order to beat your neighbor with early sweet corn, seeds may be sown in strawberry boxes in the house or in a cold frame. The corn may be transplanted without difficulty after danger of frost has passed.

Late cabbage and cauliflower seed may be started in cold frames or in a seed bed. Celery grown in boxes indoors should be transplanted to cold frames. For directions for planting, see the planting table in the Appendix. Rhubarb and asparagus may be hastened by covering a few roots with barrels or boxes and heaping fresh manure around them. This is the month for setting out both these vegetables. Rhubarb requires

very rich ground and a quantity of manure should be spaded in every Spring.

When planting an asparagus bed, it is best to purchase one or two-year-old roots and they should be set twenty inches apart in a trench six inches deep and at least a foot wide. It used to be thought that it was necessary to have several inches of manure under the roots, but it has been found that the root growth is usually lateral instead of downward, so now it is the custom to work plenty of fertilizer into the ground between the rows. After the asparagus comes into bearing, it may be cut for about three weeks the first two years, and after that, for six weeks. An asparagus bed is good for about twelve years. An old bed is benefited by a liberal application of well rotted manure this month, and many people like to use salt or kainit as well. Argenteuil and Conover's Colossal are good kinds and Palmetto is often grown for commercial purposes.

Radish seeds germinate quickly. Sown with the slow-growing root crop like carrots and parsnips, the little plants will soon mark the rows for cultivation.

IN THE FLOWER GARDEN

All the bulb beds and herbaceous borders should be uncovered by the middle of the month, as a rule. It is well to do some spading in the borders and to work in some well rotted manure or bone meal. Many annuals may be sown by the end of the

month, if the season is an open one, and the perennial plants may be set out after danger of frost is over.

Gladioli can go in safely even before the end of the frost period, but in order to get extra early flowers the corms should be planted in boxes of earth and kept in a cool place away from direct sunlight, indoors. The started plants may be set out when all danger of frost is past. Then gladioli should be planted every two weeks up to the first of July, to have a succession. Commonly the bulbs or corms are not planted deep enough. Six inches is none too deep for large specimens. It is an excellent plan to grow a row or two of gladioli in the vegetable garden, cultivating them like the other crops, in order to secure an abundance of blooms for cutting. America is one of the best bulbs for this purpose.

Sweet peas should go in this month, if they could not be planted in March. Other bulbs to plant in April include the Montbretias, which should be much better known than they are. The bulbs should go in about four inches deep. Tigridia, or shell flower, is another interesting bulb for April planting and this is none too early for putting bulbs of *Hyacinthus candicans* into the ground.

Pansy plants may be set out as soon as the ground is ready and will flower continuously if the blossoms are kept picked. The little Bellis, or English daisy, can be planted at the same time and makes an excellent border for the pansies. Pansy

plants will grow in partial shade, but can not do their best if placed under trees.

ORCHARD AND FRUIT GARDEN

Both orchard trees and small fruits should be planted as early as the ground can be prepared, but thorough preparation is well worth while. If the trees or plants arrive before the ground is ready for them, it is best to heel them in. This means simply digging a trench and setting the nursery stock into it, slightly at an angle and with only the tops protruding, the trench being then filled in with earth. If the spot chosen is dry, the stock will keep safely until it can be planted out.

Many people have the foolish notion that they can expect a tree to grow, if they merely dig a hole in the ground and thrust the roots into it. A tree is a living thing and must be treated as such. Proper planting of a fruit tree means opening up an excavation large enough to give the roots their full spread. Commonly the roots are cut back somewhat. All bruised and broken roots should be trimmed off clean in any case. Most of the fibrous roots on a transplanted tree are of no value.

It is a common fault to set a tree too deeply or not deep enough. Usually a dark ring on the stock will show where it stood in the nursery. The tree should go into the ground with this ring just below the surface. After a part of the soil has been replaced, a bucket of water may be poured in, not so much because water is needed as to work the soil among the roots.

It may be said, in passing, that the roots must never be allowed to dry out from the time they leave the nursery until they are planted again. When the trees are taken to the field, it is a good plan to wrap the roots in wet burlap or to set them in a pail or barrel filled with water. Some people make a thin mud and "puddle" the roots in that.

While the soil is being replaced about the roots, the tree may be raised and lowered slightly in order that no air spaces may be left around the roots. The rootlets cannot start unless they are in the closest contact with the earth. Some people use a lath to press the soil into the openings between the roots. When the hole has been filled, a slight depression may be left to catch rainwater, but it is better to mulch the trees with grass, straw or stable litter. As a rule, but little fertilization is needed when trees are set out. It is better to feed them liberally later.

Whether to buy one or two-year-old trees is a disputed point. It is not worth while to get trees more than two years old at any rate. Once in the ground, they must be cut back according to the variety and the way they are to be grown. These days fruit trees are almost invariably headed low and it is well to have the lowest branches not more than eighteen inches from the ground. Peach trees usually are trimmed back to a mere whip. Apples and pears are cut back less sharply and the purpose kept in mind of making an open, branching head. With most varieties it is best to cut out the leader.

When one has a small place, it is desirable to grow a number of dwarf fruit trees, particularly apples and pears. While it is necessary to wait from four to fifteen years to get fruit from a standard apple tree, according to variety, dwarf trees will bear in two or three years, while the fruit is quite as large and of the best quality. Oftentimes dwarf trees are trained on walls or buildings, thus taking no garden space which could be used for other crops. Often, too, these trees are trained on wires or trellises in much the same way as grapes. Considerable attention is necessary to grow them in this way, but very interesting effects are secured as well as high-class fruit.

When an orchard is being planted it is of the utmost importance to have trees of two varieties that bloom at the same time in order to secure cross fertilization, unless, of course, there be another orchard close at hand. Varieties of high quality in some sections are almost worthless in others, but it may be said in a general way that the following apples will provide a satisfactory succession for home use: Summer, Red Astrakhan; autumn, Gravenstein and Wealthy; early winter, Hubbardston and McIntosh's Red; late winter, Baldwin, Greening and Northern Spy. Among the best pears are these: Summer, Bartlett and Clapp's Favorite; autumn, Beurre Bosc and Seckel; winter, Beurre d'Anjou and Dana's Hovey.

The small fruits, such as raspberries, blackberries, currants and gooseberries, should go into soil which has been thoroughly

pulverized and preferably enriched with barnyard manure or sheep manure. For the home garden there should be a variety of sorts, including the red and blackcap raspberries and both white and red currants. A new raspberry called the St. Regis is of special value because it bears nearly the whole summer through. Cuthbert is a good red raspberry and Golden Queen is a popular yellow kind. Cherry and Fay's Prolific are favorite red currants, while White Grape is the best white sort. Doubtless there is no better blackberry than Snyder, and Lucretia is the common dewberry, which is really a trailing variety of the blackberry, but ripens earlier.

All the bush fruits should be planted away from buildings, where they will get a free circulation of air. It is not a good plan to set them along the fences. Currants will do very well in partial shade and even raspberries are often grown between the trees in a young orchard. Raspberries should stand four feet apart and blackberries six feet. Three feet will be far enough for currants if they are kept trimmed. Considerable cutting back should be done at planting time and the roots should be carefully arranged in the soil. Cultivation is commonly practiced, but mulching is sometimes adopted. In the established fruit garden overgrown plants may still be trimmed, old canes being cut out. It is often an advantage to stake the blackberries. Nip off young canes of raspberries and blackberries when three feet high and cut out all but three or four.

There is no better time for making a strawberry bed, which should have a sunny location and be well drained. Probably the single row system is the best for the home garden, the plants being set about 16 inches apart with three feet between the rows. The important point to remember when setting strawberry plants is to have the crowns exactly level with the ground. At least a third of the roots should be trimmed off square with a pair of sharp scissors. Then, if the plant is taken between the finger and thumb and quickly twirled, the roots will open into a circle just right for setting into the hole made for them. The holes are quickly made with a long trowel, but when a number of plants are to be set out, it is easier to open rows with a hand plow. The roots must not be allowed to dry out.

No fruit can be expected unless care is taken to purchase perfect flowering plants or else a staminate and a pistillate variety. Otherwise the flowers will not be fertilized. Staminate varieties are perfect flowering. Among many good varieties for a succession are these: Early, Ozark, Glen Mary and Sample; medium early, Abington, King Edward and Brandywine; late, Belmont and William Belt. Sample is the only variety among those named which is not perfect flowering, yet it is best to grow other kinds with Glen Mary and William Belt. The old strawberry bed should be cultivated; and when the leaves start to grow, a mulch of hay between the rows will keep the ground moist and the berries clean.

The orchard should be plowed over, if kept in cultivation, but not deeply near the trees. Harrowing every ten days is wise, for it is important to conserve all the moisture possible at this season. Many people prefer the mulch system, which means that the trees are grown in sod but with all the grass thrown around the trees to a point some distance beyond the spread of the limbs. Usually it is wise to increase this mulch with additional grass or other litter. No good orchard man will cut the grass under his trees and take it away unless he replaces it with a liberal application of manure.

It is well to spray the peach trees this month with lime-sulphur wash to prevent peach-leaf curl.

In the South beans of all kinds, beets, cucumbers, corn, squash and pumpkins and melons may be sown. Tomato and cabbage plants should be set out in rich ground. People who like okra should sow seed in drills at once. All the annual flowers may be planted and coleus beds should be set out. Coleus cuttings root readily in the open ground.

GREENHOUSE AND WINDOW GARDEN

Cinerarias and Chinese primroses may be started from seed in April. The former will flower next spring and the latter in time for the holidays. Seeds of campanulas for forcing next season may also be sown.

Lilacs, deutzias, bleeding heart and similar plants that have

been forced under glass may be set in the open when danger of frost is over. This is also the time for planting out the house azaleas, bougainvilleas and ericas, provided established warm weather has come. If grown in a partially shaded place through the summer, they will bloom next season. They are best kept in their pots, the latter being plunged in well-drained soil.

Careful watering is required by azaleas. It is best to keep the soil just moist. Paris daisies removed from the pot and planted out will give some flowers during the summer, but it is useless to take them indoors again. The yellow flowered genista may be plunged in the garden and grown on until frost. It will flower again next season. Cuttings of this plant made earlier in the season may be set into the ground and potted up in the fall.

The astilbe, commonly called spiræa, may be planted in a partly shaded border after it is through flowering and should be left for a year until the following fall. Then it may be taken up and forced again.

A few of the bulbs which have been forced in the window garden may be saved. They include freesias and the oxalis. Tulips, hyacinths and narcissi grown in the open garden may also be stored in a cool, dry place after the foliage ripens and will be ready for blooming again the next season.

In April the golden calla lily (*Richardia Elliottiana*) bulbs should be potted up, rich soil being used. They should then be

left in a cool, dark place until the roots start, perhaps two weeks. When brought to the light they will grow rapidly and flower in about three months. April is a good month to start heliotrope.

APRIL POULTRY WORK

Poultry keepers have their hands full in April, caring for the newly hatched chicks. Many hens are still allowed to run with their broods and when only a few chickens are to be raised this plan gives satisfaction. The hen which is mothering chicks must be dusted at least once a week with a good lice powder, and the coop will require spraying with kerosene or painting with a prepared lice exterminator. It is economical of labor to use one of these preparations, for one application a season is sufficient.

If the chickens are allowed to run in a garden, it will be necessary to confine the hen, while the youngsters are allowed their liberty. It is always well, though, to keep the chicks shut up when rain is falling and not to give them their liberty while the grass is wet with dew while they are small. A small yard with roofing paper over it makes a good run for such times.

When a hen is brooding ducks, a yard of low boards is sufficient. The hen may be allowed to jump in and out as she pleases. Ducklings require less brooding than chickens and are soon willing to dispense with their foster mother.

It is different with guinea chicks. They will follow the hen about until they are full grown, often to biddy's obvious annoyance. Sometimes they will even trail after a cock bird.

The experiment of brooding chickens with capons has been tried, and with a degree of success. The only trouble seems to be that the big, slow-moving bird occasionally steps on the chicks, with disastrous results.

In small yards, a hen with chicks may be allowed a certain degree of liberty and yet prevented from doing damage if a string is attached to one leg, the other end being tied to a ring running on a wire stretched between two sticks.

Chicks which seem to droop are likely to be suffering from lice. It is well to use lice powder on them and to touch the tops of their heads lightly with grease.

One advantage of rearing chicks in a brooder lies in the fact that the plague of lice is escaped, for a time at least. Brooder chicks require more attention than those with hens, however. You must not play truant when operating a brooder. The heat must be kept equable and feed rations given regularly. None of the old-style wooden brooders can successfully care for more than fifty chickens, but poultry keepers everywhere are beginning to use metal hovers of a new type and accommodating from 150 to 1,000 chickens at one time. They, of course, are for men and women who raise chickens on a large scale. The amateur will naturally stick to the smaller brooders.

Chicks should not be removed from the incubator until thoroughly dry. By that time the brooder should be warmed up and ready for them. It is best to have the floor covered with fine sand and after two or three days a litter of cut clover or alfalfa may be added. From 95 to 100 degrees of heat will be needed the first week, after which it may gradually be decreased at the rate of five degrees a week. A thermometer is necessary, yet the heat should be regulated largely by the actions of the chickens. If they are found stretched on the floor and panting, the temperature is too high; if they are huddled, it is too low. When they settle down contentedly, a slight distance apart, the poultry keeper knows that they are all right. Plenty of ventilation is very important. Neither brooder house nor brooder must be kept too tight.

After a few days, the chicks may be allowed to venture from under the hover, but a semi-circular yard of chicken wire will be needed, lest they stray away and forget how to get back. Following along the wire fence, they will find themselves under the hover again.

There is no reason for making a complex matter of chicken feeding. Just as satisfactory results come from simple methods. Many people start with hard-boiled eggs. Others use oatmeal from the grocery store, fed dry, or rolled oats. Others mix the eggs and the oats, softening the mixture slightly with warm water. Bread soaked in milk, but with the milk partly squeezed

out, makes an ideal ration for the first few days. Milk, either sweet or sour, is always good for growing chicks.

Most people like to fuss with their chickens a little at first, but in point of fact, it is perfectly safe to begin feeding a good commercial chick feed the second day, without any preliminaries. No food of any kind is needed for 36 hours, as the chick is nourished by the yolk of the egg, which is absorbed just before the shell is broken. The ready-mixed chick feeds are convenient, but not indispensable. Cracked wheat and corn will answer. Some good breeders feed bran after the first week, keeping it before the chickens at all times. At the end of the second week, ten per cent of beef scraps is added. The commercial dry mashes contain a wider variety, but are more expensive. The chicks should have coarse sand or fine grit always at hand, with water in abundance, but the drinking vessel should be one that the little birds cannot climb into. There are many good fountains on the market, but a flower saucer, with a brick in the middle, will answer the purpose.

It is important that young chickens have plenty of green food, tender grass, lettuce or sprouted oats, the latter when nothing else is available. If they have the run of a grass plot, they will get their green stuff first hand. Often the chicks are kept in small, covered runs on grass land, the runs being moved their width every day or two. When sprouted oats are fed chickens, the sprouts should not be over an inch long.

Bread soaked in milk and sprinkled with coarse sand is a good first ration for ducklings. After three days gradual shift may be made to a soft mash consisting of four parts bran, one part ground oats, one part cornmeal, two parts of green stuff and one part of beef scraps. This mash is of the proper consistency when it will crumble in the hands. Sloppy mashes for hens or ducks are quite out of date. Poultrymen of today wonder how their grandmothers succeeded in raising chickens on cornmeal mush. Ducklings will appreciate a generous amount of waste green stuff from the garden. It is well to feed both chickens and ducks five times a day at first, but after four weeks, three times a day will be sufficient.

There are no arbitrary rules about feeding ducks. I have often used dry oatflakes scattered on the grass when I wanted to be away for half a day. A neighboring breeder raises his Indian Runner ducks entirely on dry commercial mash, the same mash he feeds his laying hens. He seldom loses any and they thrive mightily. Different treatment is needed, of course, for Pekin ducks being grown for market. They must be pushed with heavy feeding, and fattened largely on beef scraps. Rouen and Muscovy ducks are perhaps better meat birds for the country home. They are easy to raise, and the Muscovys have no quack, like other ducks. They are strong flyers, though, and their wings must be clipped. Five weeks, instead of four, are required for hatching Muscovy duck eggs.

Broilers are most in demand this month and next.

Pheasants begin to lay this month and are best provided with sheltered nests, perhaps barrels or boxes with a few branches thrown over them. The eggs may be removed and given to bantam hens to incubate, but four or five should always be left in the nest.

Guinea eggs may be set this month, preferably toward the latter part. Guinea fowls are well worth raising for the meat they produce; there is no better substitute for game. These birds may be allowed full liberty, except, perhaps, in the spring, when they are laying, for they will do no damage in the garden, but on the contrary eat many bugs. Turkeys need free range, but should be kept shut in at night. Eggs laid this month are best incubated by hens.

LIVESTOCK AND BEES

The calves need warm, dry pens and plenty of skim milk. When separators are used, the skim milk may be fed direct to the calves. If milk is scarce, hay tea may be gradually substituted.

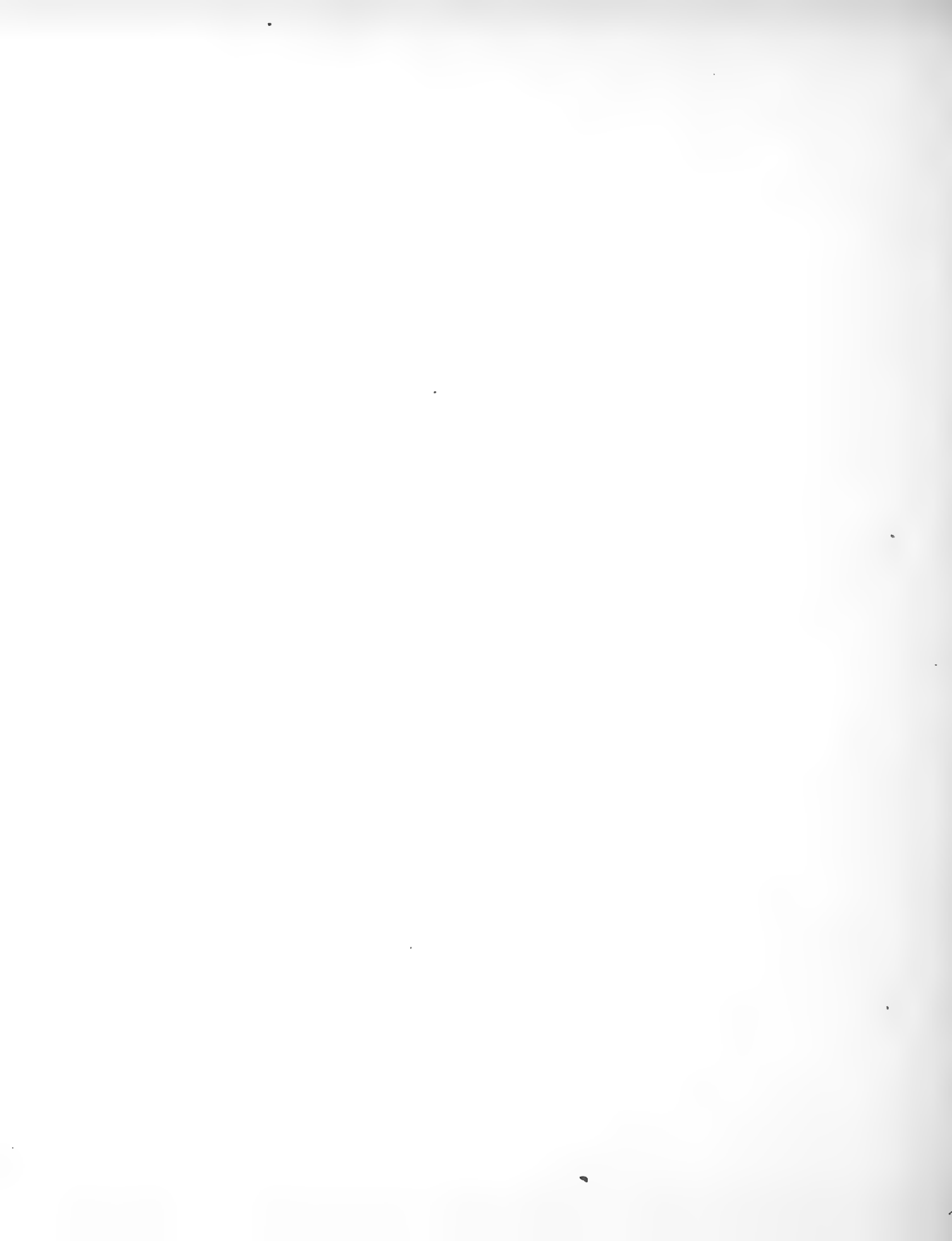
It is well to look to the feet of the colts before they are turned out. Often they grow very fast in winter and leveling up is needed now.

Farrowing sows require comfortable quarters and dry pens are necessary for the growing pigs.

April is the month to purchase bees. It is best to buy them near home, if a good bee farmer can be found, but the bees may be sent safely by express. One should read up on the subject before taking up the keeping of bees. The work is not so simple as it often is made to seem. At any rate, an investment of more than \$25 is not advised until the bees have begun to pay their way. This is not to suggest that the keeping of bees should not be undertaken. On the contrary, no country home is complete without a colony or two. A strong colony in a ten-frame hive will cost from eight to twelve dollars. Gloves, veil, a smoker and a hive tool may be ordered at the same time. They will be needed from the first.

Early April is also the month to examine bees in the established apiary. If a colony has been winter killed, the combs may be removed to another hive. New queens must be ordered for colonies found to be without queens. Weak colonies will need feeding on a syrup made of one part of granulated sugar to two parts of water. The water should be warm and the sugar thoroughly dissolved. Feeders may be purchased, but a shallow pan from the ten-cent store is just as good. It should be partly filled with excelsior for the bees to travel on and placed in the top of the hive, under the winter cushion in the "super."

The bees will need water, and if none is near by, a pan of water with chips floating on it may be set near the hives.



MAY

*“Among the changing months May stands confessed
The sweetest, and in fairest colors dressed.”—Thompson.*



MAY

MAY is the month of blossoming shrubs and the busiest month of all the year, to the maker of gardens, particularly in the northern parts of the country, where frosts linger. Not that planting monopolizes the time and labor of the garden maker. Many other duties, too, crowd thick upon the owner of a country home. Often it is impossible to repair the walks until the settled weather of May has come. Yet this is very necessary work. Sometimes the only way to get a perfect walk is to use tile drain a foot or two under the surface. Whether a walk is of brick or cement, it is important to have a good foundation of cinders. It is a waste of money to lay a cement walk unless perfect drainage is provided for. The ashes from the furnace make an excellent walk or drive when covered with gravel.

If the fences are old, it is economy to replace them little by little each spring, using modern wire fencing. Cedar, locust or chestnut posts should be chosen and it is well to dip the lower ends into tar or some prepared preservative before they go into the ground.

It pays to top-dress the fields with good reliable grass fertilizer, which should go on early in the spring, preferably just

before a rain. This is the month to seed timothy. Many field crops can go into the ground this month, but it is useless to sow or plant before there is a prospect of settled weather with the ground fairly dry. If manure is spread on the surface, it should be thoroughly plowed in, but not deeply when the crop is to be corn or anything else with a shallow root growth. A combined seeder and manure spreader is a very useful implement. On all large farms the manure spreader has come to be almost indispensable.

It is a great mistake to turn out stock too early. If the ground is wet it will be badly cut up and grass is injured by too early cropping.

IN THE FLOWER GARDEN

Much depends upon location and season, but some time in the course of May practically all the annuals may be planted in the open ground. Likewise, those that have been started in boxes in the house or in cold frames may be set out, provided they have been properly hardened off.

Among the best annuals for the average garden are nasturtiums, godetias, petunias, Drummond's phlox, four o'clocks, annual gaillardias, pot marigolds, scabiosa, zinnias, sweet alyssum, candytuft, cosmos, poppies, larkspurs, mignonette, nicotiana (tobacco plant), portulaca, salpiglossis, ten-week stocks and night-blooming stocks (mathiola).

There will be an abundance of bloom from all these flowers, if started in May. Several of them are particularly well adapted to special purposes. The poppies are almost unrivaled for beds or borders of brilliant colors and many of the newer sorts are wonderfully attractive. It will be necessary to make successive sowings in order to have flowers all summer.

The pot marigolds and portulacas are the best annuals for filling in empty spots in the beds. It is well to grow a number of plants for this purpose. They may be transplanted in mid-summer and when budded without causing them to stop blooming.

The portulacas are unsurpassed for exposed, sunny places, where the soil is sandy. They will flourish where almost no other flower will grow. It is useless, however, to plant the seed until warm weather comes.

When one wants a garden of sweet odors, the flowers to choose are the night-blooming stocks, which are not at all good to look upon while daylight lasts, but become delightful as soon as the shadows have deepened into night; nicotiana, another night-blooming flower of enchanting sweetness; mignonette, which requires successive sowings and likes a cool soil; scabiosa or mourning bride, one of the best annuals for cut flowers, and the annual wallflower.

There are many excellent perennials, started plants of which may be purchased at the seed stores and set out in May. They

include larkspur, phlox, dictamus or gas plant, lily of the valley, Japanese anemone or windflower, tufted pansy, *hemerocallis* or day lily, and *digitalis* or foxglove. The tufted pansy will bloom the first season, as should the day lily; the larkspurs possibly may.

One of the very best garden flowers is *antirrhinum* or snapdragon, a perennial which usually is grown as an annual. Early blossoms are secured by sowing the seeds indoors, but there will be an abundance of flowers when a sowing is made in the open ground in May. There are few more persistent bloomers, remaining in flower until frost comes. The snapdragons will grow in partial shade and are almost unexcelled as cut flowers.

Climbing roses may be planted to good advantage in May and some of the new sorts are remarkably fine. They bid fair to supplant the old-fashioned *Crimson Rambler*, which is quite undesirable after the blooming season is over, because of its untidy habits. Among the best climbers are these: *Hiawatha*, *Clothilde Soupert*, *Climbing American Beauty*, *Tausendschon*, *Dorothy Perkins* and *Sweetheart*. Several of the new climbers, including the *American Beauty* and *Sweetheart*, have considerable fragrance, a quality which has been rare in climbers heretofore.

There is no better time to plant hardy vines than early in May. Some of the best varieties for the country home are *actinidia*, a fragrant Japanese climber, excellent for covering

arbors and trellises; *Aristolochia*, or Dutchman's Pipe, probably the best of all vines for making a complete screen, the large, heart-shaped leaves overlapping; Virginia creeper; clematis, both *Henryi* and *Jackmanni*, the latter having violet purple flowers; the hop vine; Chinese wistaria and Hall's honeysuckle. The latter is a particularly good vine because it yields a profusion of white flowers and also because it keeps its glossy green foliage until late in winter. Two good climbers besides the well-known nasturtium and morning-glory for annual planting are *Cobea scandens* and the matrimony vine.

Late in May in most sections dahlias may be planted. These flowers have come into great popularity of late years and the cactus and decorative types are particularly fine. The Pompon varieties, however, are unrivaled for cutting. Dahlias do not need very rich soil, but the ground should be thoroughly prepared and the tubers should be placed on their sides, not upright, in a trench six inches deep, with two inches of soil over them, the trench being filled as the plants grow. Dahlias need a free circulation of air so that the rows should be from three to four feet apart and the plants from two and a half to three and a half feet apart in the row.

Many lilies may be planted in May. They like a sandy soil but may be deceived by running a little sand into the bottom of the hole where they are to go. Deep planting, from eight to ten inches, should be the rule.

Tuberous rooted begonias, started in the house, may be set in the open ground before the end of the month. They will grow in complete shade but are rather particular as to soil, which must be porous and rich. Spading a little well rotted cow manure and sand into the ground is a help.

Such shrubs as forsythia and early-blooming spirea may be pruned as soon as they have blossomed, the branches that bore the flowers being cut away.

THE VEGETABLE GARDEN

The planting of vegetables begun last month may be continued right through May, although with due regard to weather conditions. There is absolutely no advantage in the planting of such warm weather crops as beans, cucumbers, squashes and melons before the ground is warm. The seeds will only rot. Usually corn may be planted safely after the middle of the month. There are two ways of having a succession. One is to plant early, medium and late kinds at the same time; the other is to make successive sowings of an early kind. Many people are coming to depend entirely upon Golden Bantam, a yellow sort, but of unsurpassed sweetness and flavor.

Lima beans are very tender and must not be started until late in the month. Time may be gained by starting the beans in strawberry boxes or paper pots indoors or in a cold frame. They are to go into the ground on their sides and with eyes down.

All beans are of the easiest culture and do not need very rich ground. Poultry manure should be avoided, as it tends to produce a rank growth of leaves instead of fruit. Successive sowings of bush beans will be needed, but the pole varieties will continue to bear until frost. When planting them, it is best to put some well-rotted manure at the bottom of the hole. Poles, which preferably should have the bark on, are easily set if the hole is first made with a crowbar. Six feet apart is near enough for the holes and the plants should be thinned to three to each pole. Kentucky Wonder or Lazy Wife is perhaps the most prolific and most satisfactory pole string bean. Probably the Dwarf Horticultural is the best shell bean, and of the dwarf string beans there is nothing better than Stringless Greenpod.

Parsley may be sown early, but it is wise to soak the seeds in warm water a few hours to hasten germination. Peppers sown now will yield a late crop.

The late crop of potatoes is commonly planted shortly after the corn goes in. It is now possible to buy eyes instead of whole potatoes; a box of these eyes is enough to plant a small garden and may be sent by parcel post. Seeds of late cabbage and cauliflower may be sown in the cold frames or in a seed bed. Both these vegetables require the richest garden soil. New land is well suited to them. Like most crops of this character, they need an abundance of nitrogenous plant food, and poultry manure is good for them. Another sowing of peas, lettuce and

radishes should be made. Probably the variety of lettuce which is most certain to head under all conditions is Big Boston. Lettuce needs to be grown very quickly if it is to be crisp. It is helped along by nitrate of soda, which is valuable for forcing all leaf crops. It may be used at the rate of two ounces for twenty feet, sowing it in the soil but not allowing it to touch the plants. If the season is dry and water is not easily applied, the fertilizer may be dissolved in water at the rate of two ounces to a gallon of water and given by means of a watering can.

Late in the month, as a rule, the cucumbers, melons and squashes may be planted. It is of great advantage to start them under garden frames, which are merely boxes with a light of glass on top. A week or two may be gained in this way, while the tender plants are also protected from an unexpected frost. In order to make these vegetables bear abundantly, they must be fertilized liberally; a big shovelful of manure in each hole is none too much.

It is an excellent plan to start cucumbers in the hotbeds or cold frames after the early plants have been removed and to let them remain there. They will feed on the manure in the beds and produce enormously. Probably White Spine is the best all-round variety.

For watermelons, the one kind to be depended upon in the North is Cole's Early. For muskmelons there is nothing better than Montreal Nutmeg and Emerald Gem. People who like

squash should experiment with the English Marrows, which in many respects are to be preferred to the ordinary summer squashes. For winter squash there is nothing better, of course, than the old-fashioned Hubbard.

It is imperative that the garden be given constant cultivation at this season in order to keep the soil filled with moisture, which is even more important than keeping down weeds. If there seems to be lack of fertility and manure is not available in sufficient quantities, it is well to use a certain amount of all-round garden fertilizer at planting time, depending upon nitrate of soda after the plants have started. In many cases an equal mixture of hardwood ashes and bone meal will give good results.

It is always advisable to test a new garden for acidity. This is easily done with a piece of blue litmus paper from the drug store. The paper is thrust into a handful of soil which has been slightly moistened. If the paper turns red, it is an unmistakable indication of an acid soil, the degree depending upon the intensity of the coloring. The remedy for an acid soil is, of course, lime, which may be bought at the seed stores or of dealers in fertilizers. It may be used at the rate of from 500 to 1,500 pounds to the acre. In a small garden a peck of lime to twenty feet of a row will be right.

Doubtless fly beetles will show up before the end of May, working havoc with the melons, squashes, cucumbers and pota-

toes that are up. Dusting the plants with ashes or soot will help to keep this pest away. Oftentimes boxes covered with fly netting or muslin are used as a protection.

Celery for the late crop may be started in a seed bed now and set out in July. It is always an advantage to transplant celery several times, in order to keep the tap roots short. Probably the best varieties for winter use are Boston Market and Giant Pascal. Early celery plants may be purchased and set out late in the month. Golden Self Blanching and White Plume are the best varieties.

LIVESTOCK AND POULTRY

This is the month for the cattle to be turned into the pastures. Even the calves are benefited by being allowed to run in the fields. It is not to be expected, though, that grass will answer entirely for milch cows. The grain ration must be reduced very gradually. Some hay will still be needed.

It is not wise to allow horses on new grass for more than a few hours at a time when first turned out. Wherever there is plenty of pasture land, it is profitable to raise a colt or two each year.

Removing the shoes from the work horses while they are being used in the fields in the spring is beneficial.

If the weather turns bad and the horses must be kept in the stable, it is well to reduce the amount of feed.

Broody hens become a nuisance unless broken up at once. Nothing is gained by dipping them in the watering trough or otherwise abusing them. The proper plan involves the construction of a little elevated coop, raised from the floor and with slatted sides and bottom. In such a coop the sitting hen will soon become normal, particularly if imprisoned there as soon as her broodiness is discovered.

If to be used for hatching eggs, the sitting hen should be removed at night and placed in the nest in which the eggs are to be incubated. If a nestegg is given her and she is found the next morning to be sitting tight, she may be depended upon to stick. A well-made nest for a sitting hen is flat and shallow, with a rim of hay or straw to confine the eggs. When the nest is so shaped that the eggs roll to the middle, some of them are likely to be broken. If an egg is broken and the others are smeared, it is necessary to wipe them off at once with a cloth dipped in warm water.

It is a mistake to keep growing chickens of different sizes together; the smaller chicks will suffer. If hens and chickens are running together, a crate with slatted sides just wide enough for the chickens to pass through may be set over the water and feed dishes of the latter. In that way the hens will be excluded.

Keeping chickens and ducklings together is poor policy, unless they have wide range. Ducklings foul the ground very quickly and make the drinking water dirty.

Although no water to swim in is required by ducks or ducklings, their drinking dishes must be deep enough so that they can wholly immerse their bills. Otherwise the nostrils will become clogged with food and mud and the birds will be in danger of suffocation. Pekin ducklings need watching. They sometimes get on their backs and are unable to regain their feet.

Brush heaps where the chickens may seek shelter will lessen the losses from hawks. Guinea fowls do good service in scaring these birds away.

One pound of Dwarf Essex rape will seed a quarter acre and provide enough green food for a large flock until fall. The tops are broken off and new growth springs up.

Before the incubator is put away for the season, it should be thoroughly cleaned and scalded with hot water. It is good practice to wash it out with a strong disinfectant.

Turkey poults must not be allowed to run in the morning until the grass is dry and must be confined on wet days. This is true of pheasants, also. Turkeys must be kept out of the wet until they weigh seven or eight pounds. Turkeys are not hard to raise if certain essentials are not overlooked. To keep them dry and in perfectly dry coops is of prime importance. It is equally important to keep them free from lice. They must have a plentiful supply of green food, preferably lettuce, and shade in the middle of the day. Sour milk is valuable and may be given freely.

Bread soaked in milk and given a dash of red pepper is excellent for starting the young turkeys. Three times a day is not too often to feed lettuce, and there should be grit and charcoal always at hand, as well as fresh water. When four or five weeks old the poults will shoot the red, and need particular attention then, especially the females. A raw egg beaten up in milk is of value. Once this critical period is over, the turkeys will make rapid growth.

When there are permanent yards for the poultry, it is well to grow a few fruit trees in them. Plums are best for the purpose; poultry manure pushes peach trees too fast. Plum trees grow quickly and provide adequate shade, while the hens devour the curculio, the pest which makes holes in the fruit. Jarring the trees in the early morning helps.

Chicks hatched early this month should make good winter layers if kept growing steadily through the summer.

When the breeding season is over, it is time to get rid of the old male birds.

THE MONTH'S WORK WITH BEES

Swarming will keep the bee farmer alert this month. Some swarming is desirable for increase, but often far too many swarms issue. This may be prevented to a considerable extent by giving the bees plenty of room and putting "supers" on the hives early. A frame of brood may be taken from a strong

colony and given to a weaker one, being replaced with a frame carrying a full sheet of foundation. It is well to have the sections in the "super" filled with foundation, as more honey is secured. The bees require ten pounds of honey to make a pound of wax.

When a swarm does issue, the old hive should be set to one side. A new hive with full sheets of foundation should then be placed under the cluster, wherever it may have formed, and a sheet spread in front of it, so that when the swarm is dislodged, it will fall on the sheet. Usually the queen will run in at once and the rest of the bees will follow. The hive may be at once set on the stand occupied by the old hive and the bees in the field will naturally mingle with the swarm on their return. It is well to put on a "super" at once, for the hive will be filled now with lively young bees ready for work.

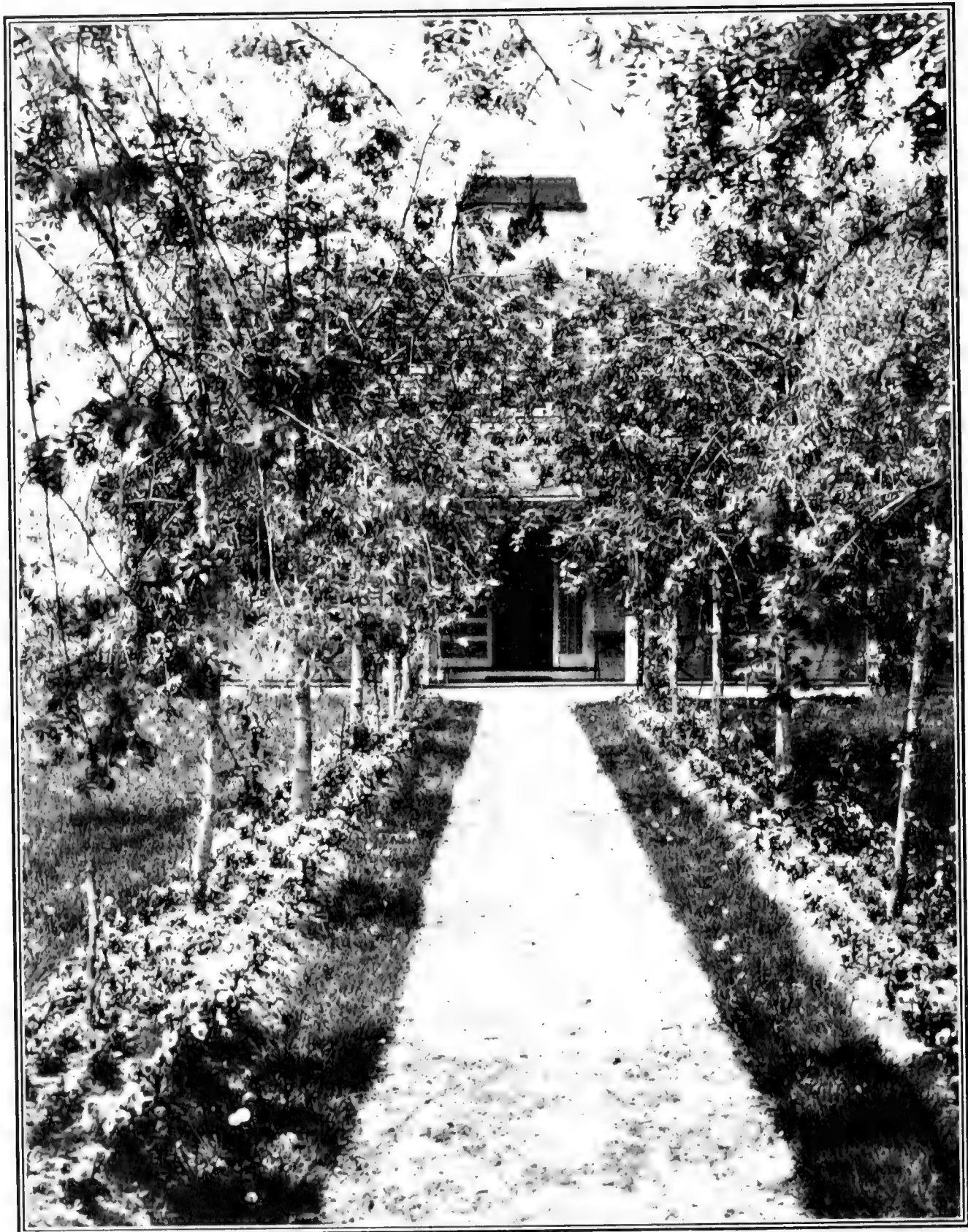
Sometimes a swarm catcher is used, in which case the new hive is placed on its stand at once and the sheet spread in front. The bees are then brought back and dumped on the sheet.

If the owner of the bees can not keep close watch of them, he will find it an advantage to use a queen trap, which is attached to the front of the hive at the entrance. The worker bees are able to pass through, but it will hold the drones and the queen. After the swarm comes forth and finds that the queen is not with them, they will come circling back, but the queen will be secure. The bee keeper's work is to shift the hives as

already described and then to release the queen at the entrance of the new hive. In this way all the labor of capturing the swarms is avoided. Occasionally the trap should be removed and emptied of dead drones.

JUNE

*“June, and the garden with roses is red;
Daisies of silver in meadows are spread.
Roses and daisies! The lark in the sky,
Loveliest of any is June’s month, say I.”—Anon.*



JUNE

JUNE is the month of birds and poets. The latter can look out for themselves, no doubt, but it is well worth while coaxing the birds a little in order that we may have them as friendly neighbors around our country homes. Much may be done to attract the birds by putting up shelters and bird houses. This work must be done with an intelligent understanding of the likes and dislikes of our feathered friends or your time will be wasted. Some birds will not occupy boxes at all, while others will accept only those of a certain character. Several concerns are now making inexpensive bird homes, based on a complete understanding of what is needed.

Oftentimes there will be a decided increase in bird life on a country place, if an attempt is made to protect the songsters from cats and other marauding creatures. When the bird houses are on poles, the cats will not be able to reach them, if a sheet of tin two feet wide is tacked entirely around the pole. Sometimes it is possible to place the sheets of tin around small trees where there are nests. English sparrows are a great pest and have a tendency to drive away all the native birds. The owner of a country home should have no compunctions in shooting as many as possible. An easy way to destroy large numbers of these

birds is to construct a V-shaped trough ten feet long with a shotgun resting in one end. If the trough is partly filled with corn, the sparrows will be attracted to it and the gun may be discharged by means of a string leading to some point of concealment. The result is sure to be heavy slaughter. Bird traps now on the market are effective in exterminating sparrows.

Bird baths are a delightful garden accessory. They may be shallow pans set in the ground or more pretentious cement fountains. Unless it has a sloping bottom, the bird bath should not be more than two inches deep, and when it is set into the ground it is safer for the birds to have no plants or grass growing close around it, where cats may find concealment. An elevated bird bath is preferable, for then the birds are not easily attacked, while it is easy to observe them at their ablutions.

June is a busy month for the farmer and the garden maker. There yet remains much planting to be done and continual stirring of the ground is of the utmost importance. The lawn should be mowed at least once a week and the clippings left where they fall. If a longer period elapses it is better to rake up the clippings. Some people make it a point to save all the lawn clippings for their poultry. Either they feed them green or else spread them on a piece of burlap until they are dry enough to crackle when touched, and then store them in barrels for winter.

This is an excellent month for sowing millet, field beans,

fodder corn, turnips and rutabagas. Japanese millet is an excellent crop for the northern farmer to grow, making useful fodder for milch cows, both green and when dried. It will grow on comparatively damp ground and should be planted at the rate of twenty pounds to the acre, the seed being harrowed in.

Corn planted in June should be heavily fertilized; in fact, it is not often that the ground is made too rich for corn. Fertilizer may be used in the hill and also broadcasted. The practice of hilling up or ridging corn and potatoes is largely being given up, but cultivation is continued as long as possible and this cultivation should begin even before the plants appear above the surface, using a light harrow. It is an old saying that tillage is manure.

Late potatoes may be planted this month and it is well to place the seed as close as twelve or fourteen inches in the row, if thorough cultivation can be given. Potato bugs are likely to appear in force and the plants must be sprayed or dusted with a poison of some kind. Arsenate of lead has largely replaced Paris green because it sticks better. When the potato patch is small, one of the proprietary poisons like Slug Shot or Bug Death may be dusted on the plants while they are wet with rain or dew. A coffee can with a few holes punched in the bottom makes a good duster.

Two crops which are growing in favor are soja or soy beans and cow-peas. Both are legumes, which means that they take

nitrogen from the air and thus improve the soil where they are grown. The cow-pea does best in the South and the soy bean in the North. They are valuable as fodder and as cover crops and often are sown among corn at the last cultivation. Both these crops are well worth growing for improving poor land.

Another crop which should have a place wherever it can be grown is alfalfa. Once started, it may be cut for many years, will yield two or more crops a season and possesses high feeding value. Unfortunately, it is not always easy to get alfalfa to grow. It must have a hospitable soil, which means that it must be deep and sweet. As a rule, a heavy application of manure is needed to prepare the ground and it is impossible to make the seed bed too fine.

Such preparation of the ground as is given for ordinary crops will not suffice, and weeds must be practically exterminated before the seed is sown. In addition, either the soil or the seed must be inoculated and lime is required.

There are preparations on the market in which the seed may be soaked, or soil from alfalfa land may be purchased. Starting an alfalfa field is not an easy task, but the results are well worth all the time and effort.

In many sections haying will begin by the end of the month. It is always well to cut clover as early as possible, for then there is an excellent prospect of getting a satisfactory second crop in September.

ORCHARD AND SMALL FRUITS

Perhaps the most important work to be done in June is spraying. One experiment station has emphasized this fact by sending out a poster with this title in large letters, "Let Us Spray." Just as the blossoms fall from the fruit trees, these trees should be thoroughly covered with a combination of Bordeaux mixture and arsenate of lead. When the amount of work to be done is not large, a ready-mixed poison may be purchased and for a few trees a powerful bucket spray pump will answer. Spraying the apple trees at this time will kill the codling-moth and at the same time the tent caterpillar. It is poor policy to use the spray until the blossoms fall, however, for otherwise many bees will be sacrificed and the bees are needed to pollinize the flowers.

It is well to spray all the fruit trees with this same poison, for various pests are destroyed by that means, while the Bordeaux in the mixture is effectual in overcoming scab, anthracnose and rust. The regular Bordeaux mixture may be used to advantage on the grapevines and in the berry patch. While one is about it, it takes but little time to spray the ornamental shrubs and trees, as well, and the result is likely to be beneficial.

Many seasons, aphids or plant lice of various kinds and colors are exceedingly abundant. Their presence is indicated

by the curling of the leaves and they must be taken in hand early, because it is difficult to get rid of them if the leaves become tightly curled. Spraying with kerosene emulsion is effectual. This preparation is easily emulsified by running it through the spray pump or by using a common bicycle pump. Of late there has been a growing tendency to use one of the several nicotine preparations, which are very much more convenient and are fully as effective. They come in liquid form and it is only necessary to dilute them. These preparations may be made use of in the flower garden, greenhouse or anywhere else that plant lice appear. When these lice are found on foliage trees, about the grounds, most of them may be washed away by turning a vigorous stream from the hose against the under part of the leaves.

If the currant and gooseberry bushes are not watched, the currant worm is likely to steal a march on the garden maker, for this pest begins his work near the bottom of the plant and often is not discovered until the leaves are well riddled. Hellebore is commonly used to fight this fellow, although arsenate of lead is sometimes sprayed on the plants before the fruit forms. If the plants are thoroughly dusted with hellebore (which must be fresh) mixed with one-third flour, while the dew is yet on the leaves, the career of the currant worm will be ended in short order. It is well, however, to watch for a second brood a few weeks later.

Raspberry plants are likely to be attacked by borers this month and a sharp lookout for them should be kept up. It is a good plan to cut off and burn all canes in which the borer has been at work. If there are any wild cherry trees around the place they may be expected to harbor tent caterpillars and should either be sprayed or cut down. In case the young orchard is not in sod or crops, cultivation once a week will be needed. In sod land the trees should be at least dug around frequently. Grass cut in a well-kept orchard is never removed but is used to mulch the trees; unless, indeed, large quantities of stable manure be substituted.

Water sprouts should be removed from all trees before they have grown two inches. No tree can afford to support a crop of useless sprouts. It is still possible to regraft fruit trees, if good scions have been preserved. The scions should be soaked until plump before they are inserted.

Newly set trees will need watching and buds which start at a point where limbs obviously will not be wanted should be rubbed off, but this thumb pruning is likely to be found more important the second year. As a rule, no cutting will be needed except where trees are well grown. It is seldom that pruning of any kind is demanded by plums and cherries. Many cherries will be picked in June and care should be taken not to bruise the trees or to break off fruit spurs, as the latter will give the next season's crop.

As soon as the strawberry bed ceases bearing, it should be thoroughly cultivated and a bed over two years old ought to be plowed up and planted to late vegetables. New plants may be made by using strong runners, setting them into small pots sunk into the ground until they have made good root growth.

IN THE FLOWER GARDEN

Dahlias and cannas may be set out early in the month. It is an advantage to start cannas indoors a few weeks earlier and it is not a bad plan to sprout the dahlias. The dahlia clumps should be separated anyway, allowing a good eye to each piece, and they may be easily started in moss or peat in a box or on the cellar floor, using a moderate amount of water. In this way it is possible to weed out all poor roots, only those which have started being planted.

All the annuals may be sown with perfect confidence this month. This is an excellent time, also, to start perennials for blooming next season. The seed may be planted in a special seed bed or an unoccupied cold frame may be taken for the purpose. It is still possible to set out potted perennials from the seed stores. This may be done, in fact, up to the first of July, if the plants are kept well watered. Late asters set out this month should have a small handful of ashes placed around the roots to keep away the root aphid, and should not be watered freely until they begin to flower.

All the early flowering shrubs should be pruned as soon as they have ceased blossoming. The more new wood, the better the display next year.

The bulbs of April flowering tulips may be lifted and stored in the cellar to ripen. It is much better to leave the cottage or May flowering tulips in the ground, planting some shallow rooted annuals, like pot marigolds or portulacas, over them.

It is well to spray the roses once or twice this month with potassium sulphide to prevent mildew and black spot. Nicotine is as valuable as any remedy for keeping down aphids, and probably the best way to get rid of rose bugs is to pick them off.

IN THE VEGETABLE GARDEN

Bush beans and sweet corn should be planted twice in June in order to provide a long succession. Lettuce may be sown at any time and the careful gardener uses this salad plant to fill in vacant spaces. As the weather gets hot, lettuce needs shading at first and an abundance of water.

The winter beets and turnips may be planted this month and the beets may be transplanted freely if most of the tops are cut off and plenty of water given. Beets do not require as much thinning as some of the other root crops and in the home garden may be thinned out in such a way as to give beet greens for the table. Although sweet corn was sown last month, there is no need to plant pop-corn until June.

Winter pumpkins and squashes will have plenty of time for growing, if planted this month. It is a common and excellent practice to grow pumpkins among the corn. Welsh onions planted now will give fine bunching onions next spring at a time when they will be highly prized.

New Zealand spinach should be better known. It is not really a spinach at all, but makes a first class midsummer substitute for that favorite vegetable.

As soon as the pea and bean vines cease to bear they should be pulled up and burned, thus leaving the ground free for a later crop, which may be cabbages, celery, rutabagas or mangels. People who keep hens often make it a point to plant mangels for winter feeding. Another good crop for the poultry keeper to grow in the garden is Dwarf Essex rape, which will be large enough to feed in five or six weeks and may be fed continuously from the same plot of ground, as new tops develop when the old leaves are pulled off. The same plan may be used with Swiss chard, a very useful vegetable for the small garden. The leaves boiled are a good substitute for spinach and the midribs may be cooked in the same way as asparagus, having much the same flavor.

Late in the month celery plants may be set out, whether home grown or purchased. Celery is not hard to grow if a few important points are remembered. It needs good rich soil to begin with but will stand a little shade. Much is gained if the

ground is saturated with water to a depth of several inches before the plants are set out. Modern gardeners allow water to run on the celery plot for a whole day and this is a much better plan than applying water afterwards. When the plants go into the ground, the roots should be cut back perhaps one-third.

It is a common practice to plant celery in trenches, but there is another method which may be followed to advantage in the home garden and with less work. The plants are placed somewhat closely together and the soil around them made very firm; then fresh horse manure is spread around the plants to a depth of two inches, but not allowed to touch the stalks. The manure will act as a mulch, conserving all the moisture in the ground, besides feeding the plants generously as they grow.

Tomato plants may still be set out. If the plants are at all spindling, it is wise to make a little trench in the ground and to bury a part of the stalk in this trench, along with the roots. New rootlets will be thrown out all along the part of the stalk under ground, producing a much stronger plant. Early fruit is secured by training the plants on poles or trellises. When poles are used, it is the practice to pinch out the laterals, forcing the growth into the main stem. Fewer but better tomatoes are secured in this way. On the whole, however, there is no better plan than to make an A-shaped trellis over which the vines can climb, plants being set on each side. Spraying with Bordeaux mixture will prevent tomato rot.

If cutting asparagus has ceased, the bed should be lightly plowed and thoroughly cultivated, after which it should receive a liberal application of commercial fertilizer with an equal amount of kainit.

Cutworms are pretty certain to be much in evidence and the amateur often is puzzled how to deal with them. Probably the best way to protect all vegetable plants is to thrust a collar made of stiff paper into the ground around them. It should extend two inches beneath the surface and two or three above. When plants are set out in paper pots or dirt bands, they will not need other protection. If the garden is a large one and this pest numerous, it may be necessary to use poison bait, which consists of lettuce leaves dipped in Paris green or arsenate of lead and scattered among the growing crops. This plan naturally is to be avoided where there are children or poultry.

LIVESTOCK AND POULTRY

Many men who grow lambs mark them at weaning time. Punching the ear is a good way.

This is a good time to select brood sows from early litters. They should be heavy boned and vigorous and it is well to make sure they have twelve teats. A pasture by themselves is best for them.

Pigs grow well on Dwarf Essex rape and skim milk, with some middlings added.

Horses as well as cows need salt. The cows may have theirs in the pasture, but a salt cake in the stall is the best way to accommodate the horse.

The horse will rest better if the harness, including the collar, is taken off when he comes in to feed. When the horse comes in at the end of the day his eyes, nose, dock and the inside of his hind quarters should be sponged.

It is not wise to give grain to a tired horse. A much better plan is to water him and then let him nibble on hay for an hour or two. Then he may have more water and his grain. A final watering at night will add to the animal's sense of comfort.

Kerosene and carbolic acid in the proportion of a pint of the former to a teaspoonful of the latter may be used as a spray to protect the livestock from the flies.

Shade will be required for the growing stock as the warm days come on. This is just as important in the case of ducks and turkeys as in that of chickens. Even bagging fastened to poles will help. Often sunflowers may be grown along the poultry yard fence for shade. Jerusalem artichokes are even better. They are very easy to grow and when once started will come up year after year. In the field or garden, they become a nuisance, but the leaves provide excellent shade and the fowls have no liking for them. If protected until they are started, these artichokes may be grown in the poultry yard anywhere.

Stray cats often turn chicken thieves and cause considerable

loss. Some people set a box trap baited with a dead chicken near the runs. Any cat found in the trap may well be disposed of without more ado.

There is need of fresh water in abundance in the poultry yard. If it is fresh, the laying hens will drink more and the result will be more eggs. Eggs and water have a closer connection than many people realize. There are several reservoir fountains on the market that give good service and minimize the labor.

Turkey poults must still be kept out of the wet grass, and will still need green food in abundance. Ducklings must have green rations, too. Watercress is much liked by them, but even rye will answer.

Early hatched geese may be penned and fattened beginning the latter part of the month. "Green" geese are in demand in July.

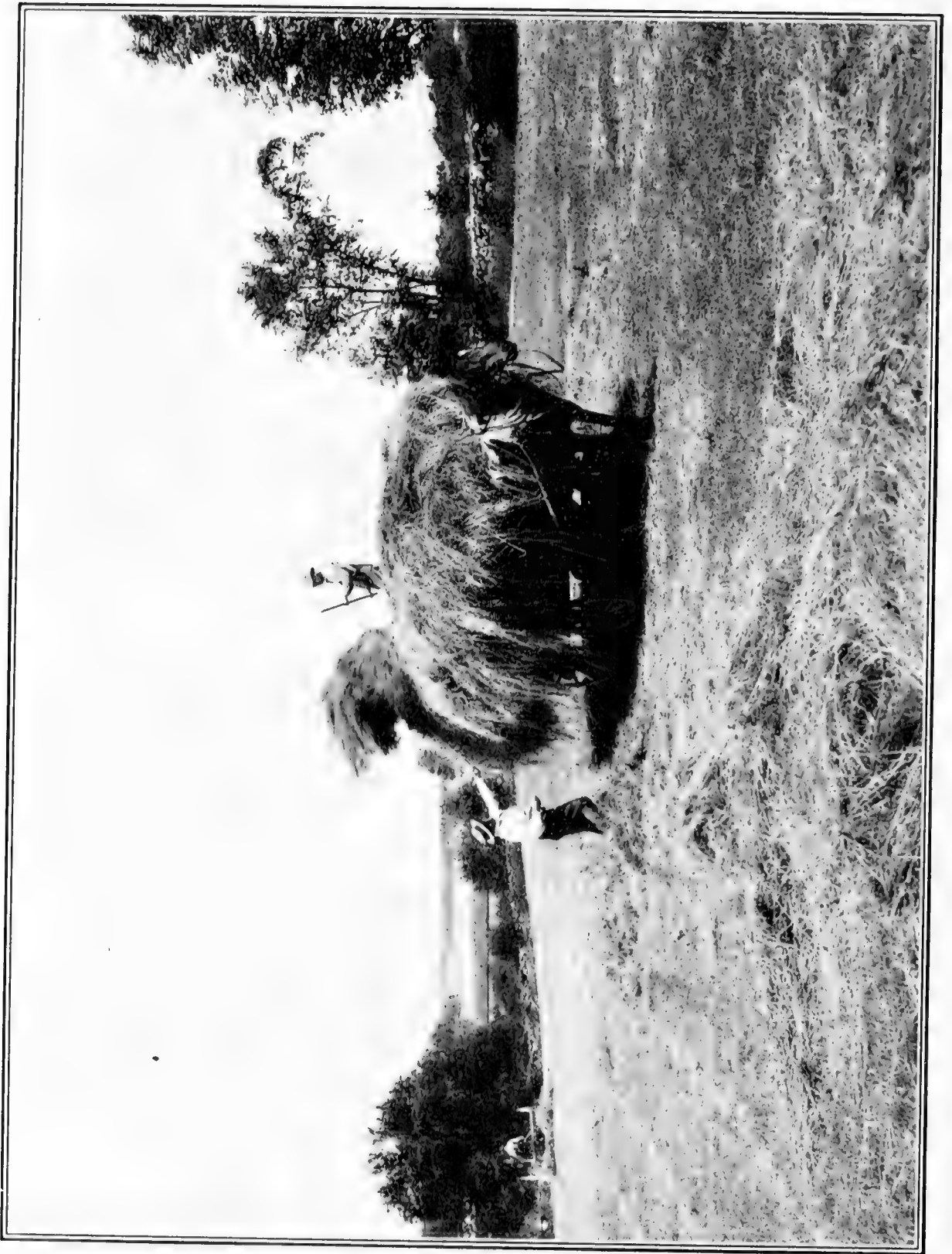
WORK WITH THE BEES

If it is found that a queen is not laying well, she must be replaced at once, or no honey will be secured from that hive and the colony will dwindle. A queen is seldom worth keeping more than three years. New queens may be bought by mail and will cost from seventy-five cents up. The old queen is best destroyed on the day before her successor is to be introduced. This is because the bees are very excited for about eight

hours after they miss their queen. The next day will find them reconciled and they will be ready to accept a new sovereign. The latter, in her cage, is placed on top of the frames and in a short time the bees will free her by eating away the candy which seals the opening. A few hours after the introduction it is advisable to make an inspection to see that all is well. When one has a colony with a particularly good queen, a frame containing a ripe queen cell, if one is to be found, may be removed instead of buying a new queen.

JULY

*“When the heat like a mist veil floats,
And poppies flame in the rye,
And the silver note in the streamlet’s throat
Has softened almost to a sigh
It is July.”—Susan Hartley Sweet.*



JULY

JULY is the great haying month especially in the northern states, although when weather conditions are good, it is often possible to get in some of the hay in June. The best time to cut Timothy is when the heads are in or just past full blow. Clover is best cut when a third of the heads show a dull brown, having passed well beyond the blooming period. Clover must be cut and handled with care, wet days being carefully avoided. It is not well to cut clover even when it is wet with dew and no more should be cut at a time than can be stored as fast as it is made. When cut one morning and hauled into the barn the next, it should be turned in the afternoon of the first day. As a rule it is not advisable to stack clover. Farmers have often saved their clover crop in a wet season by storing it in the silo. As a matter of fact, clover makes an excellent ensilage.

July is the best month for sowing root crops for stock feeding. This applies to mangel wurtzels, sugar beets, rutabagas and common turnips. As a rule these vegetables may be planted where earlier crops have been taken off. Dwarf Essex rape sown in July will make excellent pasturage for sheep, hogs or poultry. When no other crops are to be planted or if the

soil needs improving, cover crops of soy beans, cow-peas, crimson clover or vetch may be put in. All of them take nitrogen from the air to enrich the earth. The cow-peas and crimson clover can be grown only south of New York. Both the cow-peas and the soy beans are killed by hard frosts, but the crimson clover and vetch will live over.

Cultivation must be kept up persistently. A good hoeing is often worth as much as a summer shower. It may be well here to say a few words about the tools needed by the owner of a country home. Of course, much depends upon the size of the place and the extent of the gardening and general agricultural operations carried on. Some at least of the following tools will be needed in any case. The prices given are approximate.

Horse rake	\$ 21.00
Two-horse wagon	100.00
Portable gasoline engine	150.00
Spray pump	20.00
Wheel hoe with seed drill	10.00
Wheelbarrow	4.50
Grindstone	6.00
Axe	1.00
Manure fork . . . . .	.75
Hay fork . . . . .	.50
Common hoe . . . . .	.50
Warren hoe . . . . .	.50

Ladder, 30 ft.	\$ 5.50
Wooden rake . . . . .	.40
Iron rake . . . . .	.60
Pruning saw . . . . .	.75
Pruning shears . . . . .	.50
Shovel . . . . .	.75
Spade . . . . .	.85
Lawn mower	8.00
Carpenters' tools	10.00
Sulky plow	40.00
Walking plow	12.00
Disc harrow	25.00
Spike tooth harrow	6.00
Spring tooth harrow	15.00
Horse cultivator	7.00
Lawn roller	10.00
Garden line	1.00

The farm tools must necessarily be selected with an intelligent consideration of local conditions. Quite different plows, for instance, will be chosen for a hill-side farm and for one which is level. It is always advisable to consult somebody who has had some experience as a farmer in that section.

Of the garden tools, few are more useful than the wheel hoe. If the garden is large or if field crops are to be planted without a

horse, the automatic seeder attachment is needed. In a small garden the furrows can be opened and covered with the hoe alone. This device has done much to eliminate backaches from garden operations.

Of course, a common hoe must be used for some parts of the work and this hoe, to be satisfactory, must be chosen with care. The weight should be just right for the man who is to handle it and it should have just the proper "feel." Moreover, the hoe must be kept sharp or good work cannot be done with it. The wise gardener carries a file in his pocket and uses it on most of his tools. To keep a hoe sharp it should be filed frequently, but only on the under side.

The Warren hoe has a triangular blade which can be used to good advantage in every garden. It is easy to open furrows for seeds with this hoe and equally easy to cover them, while the sharp point may be dug into sods or heavy ground with much less effort than the blade of an ordinary hoe.

A light iron rake is invaluable in smoothing off the garden when preparing a fine seed bed such as is needed for all garden crops. Among the useful small tools are the trowel, the hand weeder and the dibble.

Farmers often have been accused of lack of thrift because they allow their tools to remain out of doors exposed to the elements. Unfortunately there is considerable truth in the accusation. The only proper plan is to have storage room for

all the tools and the garden implements are best arranged on the wall hanging on hooks put up for the purpose.

ORCHARD AND FRUIT GARDEN

Thinning the fruit is a job for late June or July, largely depending upon conditions. Formerly nobody thought of thinning the fruit on a tree, but experience has shown that a much more satisfactory crop is secured by this means. No commercial peach grower thinks now of neglecting this work and apple growers are beginning to practice thinning. The rule is to have the fruit so far apart that no two specimens touch and thinning is best done after the natural drop, which usually comes in June.

Curculios do considerable harm to plums and quinces. The way to get rid of them is to jar the trees early in the morning. This jarring is done by means of a stout pole, one end of which is wrapped in burlap or old blankets. This mammoth stuffed club is driven against the branches of the trees with sufficient force to dislodge the pests, which fall on sheets previously spread under the trees, making it easy to gather them up and destroy them.

Another spraying of the fruit trees this month is advisable, using combined Bordeaux and arsenate of lead. The grapevines need spraying too. In order to protect the grapes from birds, mosquito netting may be thrown over the vines. The practice of bagging is followed when extra fine fruit is desired.

The method is simple. Paper bags of the right size are secured at the grocery store and tied or pinned over a number of selected bunches. Bagged grapes ripen a little earlier than the others.

Gooseberries are often infected with mildew in midsummer. Keeping the bushes well open is a help, but it may be necessary to spray with potassium sulphide dissolved in water, one-half ounce to a gallon.

Cultivation of the orchard should end by the middle of the month in order that the wood may be ripened before winter. Good orchard growers then sow a cover crop, which may be crimson clover, vetch, soy beans or rye, to be plowed under in the spring.

IN THE FLOWER GARDEN

If the hybrid perpetual roses are cut back about one-third, a second crop will often be produced. It is not too late to make a final planting of gladioli the first of the month. South of New York dahlias may be planted early in July, beginning to flower after the hottest weather is over. Better asters will be secured if the first buds are taken off.

Pansies for next year's blooming may be planted late in the month in a well-prepared seed bed. It is not a bad plan to cover the bed with hay or other litter until the plants appear; otherwise it will be necessary to keep the ground thoroughly well watered. After the pansies have made a good start, they may

be set out where they are to bloom the next year, and will go through the winter with only a little protection. English violets are best started from runners set out now. They may be placed in new ground and cultivated until late in August. Well-grown old plants will have many runners.

July is perhaps the best month for starting all the perennials which are to be grown from seed. A cold frame or spent hotbed may be used to good advantage for this purpose, although an outside seed bed may be used. When sowing seeds in midsummer it is necessary to have the ground moist in order to secure quick germination, and perhaps the best way to apply water without washing out the seeds is to lay a strip of burlap or old bagging over the bed and apply the water to that with a watering can. Often it is advisable to shade young plants if in an exposed situation. Considerable watering in the garden may be avoided by mulching the rose bushes, shrubs and perennial plants with litter from the poultry house or the stable. Then if it is necessary to apply water, the litter will hold the moisture in the ground. When litter is not used, the soil should be frequently stirred.

Everblooming roses are encouraged to send forth flowers in abundance by a weekly application of manure water about the color of weak tea. A somewhat less satisfactory substitute is nitrate of soda dissolved in water, an ounce to a gallon. Both the manure water and the nitrate of soda may be used to advan-

tage in forcing the bloom of various annual and perennial plants. It is perfectly feasible to set out roses even in midsummer, if potted plants are used. These plants usually come in paper pots and may be transferred to the ground without disturbing the roots. Often they will bloom the same season, but it is necessary to see that they are kept well watered and they may require shading at first.

It is very important to apply water in abundance to the rhododendrons if the season be a dry one. Even if the effects may not appear now, the injury done by drouth will be seen in blossoming time next spring.

Watering of the lawn must be done intelligently or the results will not be worth while. Merely sprinkling the surface is worse than giving no water at all, for the roots are coaxed to the surface where the sun's heat will scorch them. The ornamental lawn sprinkler is often a delusion and a snare. The only right way to water a lawn is to let the water run in one place for an hour or so, using only sufficient spray to cover a small area. Ordinarily one good watering a week will be sufficient in the hottest weather. Shaded lawns need little water. Grass often fails to grow under trees if ground is made too wet.

In times of drouth it is best to apply water at night in the garden and to use the hoe in the morning. Even the lawn is better watered in the evening than while the sun is shining upon it, for then evaporation is very rapid and much water is wasted.

A heavy mulching around the sweet peas will do much to keep them thriving. Occasional applications of manure water will do them good, too.

Pansies often begin to look bad in July, but their growth may be renewed if the center of the plant is pinched out and a liberal application of sheep manure or liquid fertilizer made. By taking a little of the plant with each blossom when the flowers are picked, the plants get a constant pruning which is beneficial. Probably it is needless to say that pansies will soon cease blooming unless the flowers are gathered daily. This applies also to sweet peas and many other garden flowers. If they are allowed to go to seed they will consider that they have fulfilled their mission. Seed pods and withered flowers should be picked off those plants which do not yield blossoms suitable for cutting.

WORK IN THE VEGETABLE GARDEN

In order to get a succession of lettuce, radishes and beans it will be necessary to make frequent sowings. Salamander, as its name would indicate, is a first-class hot weather lettuce. All lettuce plants need to have plenty of water and some shade at this season. Oftentimes the beans can be saved from rust only by spraying with Bordeaux. Potatoes must be sprayed, too, to prevent blight and more especially to check the efforts of the Colorado beetle to eat the plants.

Cabbage worms are likely to appear in force this month. Some people spray with arsenate of lead, but the use of this poison is not recommended after the heads begin to form. It is better to use hellebore, soot, wood ashes, salt or even hot water sprayed into the heads. Savoy cabbages, perhaps the best for home use, must be watched as closely as the other kinds.

Often it is a good plan to bury the runners of the squash vines at intervals. Roots will be made at these points so that the plants will not be lost if borers appear. These pests work in the stems and are not detected until the plants begin to wilt. When squash and melon vines grow rampantly it is well to nip off the ends to force the vigor into the fruit.

Most vegetables which seem to be growing too slowly may be stimulated by an application of nitrate of soda.

It is possible to have one more crop of peas this season. The way to do it is to make a planting of an early variety late this month. The pea is a cold weather vegetable. Sweet corn, on the other hand, loves the heat and a final planting may be made the first of the month. If an early variety is used, it will be pretty certain to mature.

Carrots and beets may be planted in order to give tender young roots in the fall. Late celery may be set out early in July, using the space occupied by crops which have passed.

Late cabbage and cauliflower plants may still be set out. The one point to be remembered when transplanting is that the

soil around the plants must be made as firm as possible in order that the rootlets may come quickly into close contact with the new earth.

It is not too late to plant cucumbers for pickles, if a forkful of manure be thrown into the hole. There is an old saying that cucumbers planted before five o'clock on the morning of the Fourth of July will yield all the pickles needed for fall.

GREENHOUSE AND WINDOW GARDEN

Often the window garden begins to wear a forlorn and dejected appearance by the time the height of summer has arrived. This is not to be wondered at, for the plants have made a heavy drain on a comparatively limited amount of plant food. The remedy is to dig sheep manure or a balanced commercial fertilizer into the earth, or else to begin giving weekly applications of manure water. It must be remembered, too, that the window box needs water in great abundance, for exposure to the air on all sides creates extremely rapid evaporation.

There is still time to sow seeds of cineraria, calceolaria and the various Chinese primroses for next winter's blooming.

It is time to order bulbs of freesia and oxalis, if flowers are wanted for Christmas, because it will be necessary to plant them next month.

Pinching off the chrysanthemums should cease about the middle of the month.

After the hydrangeas have ceased flowering they may be planted in a shady border and allowed to grow until fall.

Violets are propagated by means of runners in the spring or the late summer. They are placed in flats in the greenhouse, which is kept well ventilated. A soil of light loam with one-third well rotted manure will be satisfactory, but leaf mold in place of the manure is even better. If one has no violets a good way to start growing them is to buy young plants as soon as possible. The double Marie Louise and the single Princess of Wales are the most popular.

This is an excellent month to consider the building of a greenhouse if there is none on the place. It may be inexpensive or costly, as the owner may desire. Three or four hundred dollars will build one large enough for growing many plants and it is a growing practice to attach the greenhouse to the garage, a single heater answering for both. Double glass sash is now being used for greenhouses and reduces the amount of heat required.

STABLE AND LIVESTOCK

It is a fortunate fact that flies are beginning to be less numerous than formerly was the case. Nevertheless, they are to be found in considerable numbers in most country places, and torture cows and horses which are exposed to their attacks. If all the manure from the stable were kept in a covered pit, the fly

nuisance would be very soon abated, for manure is their chief breeding place. Often it is humane to stable the cows during the middle of the day and to darken the barn rather than to leave the animals in the exercise yard or pasture. There are various sprays on the market which are effective to a limited extent in giving protection from flies. Where there is only one cow a blanket of burlap may be made for her. There are ready-made blankets, designed for summer use, on the market.

Water and shade are among the essentials this month. Even dogs and cats often suffer from a lack of water because of their owners' thoughtlessness. Probably there would be fewer mad dog scares were it not for this neglect. It is important that the dog kennels be kept perfectly clean and, although they may be in a sheltered position to keep them from becoming too hot, it is well to have the sun shine in at the entrance for an hour or two each day. Raw meat should be avoided except what meat adheres to the bones bought for the dogs to chew upon. Two meals a day are as many as any dog should have after it is six months old.

Particular attention to sanitation and cleanliness must be observed during the hot weather. Milk should go from the barn to the dairy the moment the pail is full and must be cooled immediately. Neglect of this point is one reason why milk sours quickly. The use of cheesecloth in the dairy is a great help. Milk can be strained through it easily, and squares of

the cloth may be used, also, for giving temporary protection.

It pays to give the pigs pasture whenever possible. They naturally are grass-eating creatures. It hardly pays to raise pigs on the farm if they must be confined, except for family use. It is wise to dip the pigs once before they are weaned and every month thereafter until autumn. Growing pigs need, besides grass, considerable bran, middlings, oats and milk. Corn is not important until fattening time approaches. Even with pasture hogs need a wallow, not because they like to make themselves dirty, but for the reason that by wallowing in mud until they are caked with this substance they are able to rid themselves of vermin.

March, April and May pigs should be weaned. After they have been separated from the sows they should be given fresh, warm milk for a feed or two, a change then being made to skim milk with shorts added, the amount of shorts being increased daily until it makes a thin porridge. A pint of oil meal to each half barrel of this ration may be added.

It is best not to breed sows or to use boars under a year old. The period of gestation is sixteen weeks. If young pigs have the run of a pasture they will grow amazingly.

If the amount of pasture is limited, soiling may be necessary most of the summer. This means that green crops are cut and fed, the cows being confined to exercise yards. Of course much extra labor is required and plans must be made for a soiling

crop the season through. Rye sowed in the fall will give spring feeding, oats and peas will come later and millet may be fed in the late summer, in addition to corn fodder. Cows should be stabled nightly all summer, whatever system is used. The only proper place to milk them is in the stable and they should have their grain there.

Calves should be taken from their dams as soon as dry and penned far enough away so that they will not be heard by the mother; the latter should be given a light bran mash moderately warm and milked after five hours, the milk being given the calf. Bran mash with an abundance of hay may be allowed the cow for a week, by which time she can be gradually returned to her customary diet.

JULY IN THE POULTRY YARD

Vigilance is the price of success with poultry. Unless the chickens receive the constant attention which keeps them growing uninterruptedly until fall, the season's work will not be a success. Chickens must have water without stint and should be provided with shade. Many growers are now allowing their chicks to run in the corn fields, which is a particularly good place for them, as they are protected from hawks and are shaded by the cornstalks. They do no harm and some good. If milk, either sweet or sour, can be obtained, it will be found one of the best of growing foods. It is just as well not to feed corn

too early to young chickens, as oats, wheat and their products are better for making a large frame.

No success should be expected unless the chickens are grown on ground which is not tainted. This means that it must be new land or else kept in grass. Undoubtedly the youngsters thrive best when they have a wide range, especially if they can get on plowed ground. On general principles, the young stock should be confined to their houses until the dew is off the grass in the morning, yet it is a question whether they do not suffer more as a result of fretting than from the slight wetting they might get. It has been found that when chicks which are accustomed to their liberty have been confined for a day or two, they have actually lost flesh.

A vigilant fight against lice must be kept up. These pests multiply so fast that the progeny of a single pair will amount to a hundred thousand in a few months. They are always worse in hot weather and the red mites, which leave the fowls in the morning, remaining hidden in cracks or on the under sides of the perches through the day, are particularly bad, as the hens can not get rid of them by dusting. It is the poultry keeper's work to exterminate them, spraying the houses and perches with kerosene or by painting the roosts with a liquid lice paint, which is the most effectual way.

Cockerels and pullets are best separated as early as possible and such cockerels as are not needed for breeding purposes

should be fattened for market. It does not pay to keep them after they have made a weight of four pounds dressed. The smaller breeds should be marketed when lighter. It is well to kill off the older hens as they stop laying, for they will soon begin to moult and will be unprofitable for some time.

If the house is very hot, it is a good plan to make openings at the rear just under the roof, with hinged shutters to be lowered when cooler weather comes.

The eggs should be gathered several times a day or they may be incubated by the laying hens. Sometimes changing from the regular laying mash to a commercial mash such as is fed to young chickens will stimulate the egg yield.

Turkey eggs may still be hatched and the turkey hens themselves may be allowed to sit on them this month. It is just as important to keep turkeys as hens free from lice.

Coops for chickens not old enough to roost are better with earth floors than with board floors at this season. The position of the coops should be changed often, however, unless sand is kept in them and renewed frequently. When cockerels are to be kept for the family table, through the coming year, it is wise to have them caponized, for they will then make larger growth and may be kept together in large flocks without quarreling. There are experts in most communities who will perform the operation for from five to ten cents a bird.

The first of July is early enough for the hatching of pheas-

ants, for they are decidedly delicate at first, being particularly susceptible to lice. Some breeders transfer the eggs to incubators just before they are due to hatch and raise the young pheasants in brooders. When they are raised with hens, a low wire fence should be run around the nest, for they are prone to wander away and are likely to be lost. The hen must be thoroughly dusted with lice powder at frequent intervals and a little of the powder may be applied to the pheasants.

Pyrethrum powder from the drug store will drive lice from poultry if it is fresh. If old, it is of little value. A very efficient insect powder may be made at home as follows: Mix thoroughly two and one-half pounds of plaster of paris, three-fourths of a pint of gasoline and one-fourth pint of crude carbolic acid, and when sufficiently dry, work the mixture through a fine sieve. An old pepper box or salt shaker may be used when dusting the hens and the birds should be held up by the feet in order that the powder may be well worked into the fluff around the vent and under the wings.

JULY WORK WITH THE BEES

July swarming is not unusual, but is quite undesirable. Twenty-four hours after the swarm has been hived, it is best returned to the parent colony.

Early made honey may be taken from the hives in July, but all honey should be left until somewhat ripened. This is par-

ticularly true of honey required for extracting. Comb honey if left too long in the hives becomes stained. An extractor costs about ten dollars and removes the honey from the comb by centrifugal force. The comb may then be returned to the hive to be filled again.

When honey is coming in rapidly a "super" may be filled in a short time. When two-thirds of the sections have been filled, the "super" should be raised and another one slipped under it. This may be continued until there are four or five on the hive.

"Supers" filled with honey may be removed without trouble if a Porter bee escape and honey board are used. The board, with the escaping device attached, is slipped under the "super" and left for 24 hours, by the end of which time nearly all the bees will have gone into the hive below. As they are unable to return through the escape, the "super" will be practically empty.

AUGUST

*“The quiet August noon has come,
A slumberous silence fills the sky,
The fields are still, the woods are dumb,
In glassy sleep the waters lie.”—Bryant.*



AUGUST

AUGUST is one of the most satisfactory months in the year for the owner of a country home. It is the harvest month, crowning the season's work with a generous yield from field and garden. At the same time it is the month for starting the work of the next season, for the ground must be thoroughly prepared for the sowing of winter wheat. Sod land should be dressed lightly for best results and plowed deeply, after which it should be harrowed repeatedly until a good state of tilth has been established. In the absence of manure an application of commercial fertilizer will be needed.

In August it often is possible to cut another crop of alfalfa, the proper time being as it is just coming into bloom. Alfalfa is exceedingly satisfactory, but must be handled with rather more care than some of the other crops. Oats will be cut this month, preferably just as the grains have become well formed. If the crop is to be used for hay, the oats should be cured in the same manner as grass. Oats make a good soiling crop for milch cows as the pastures run short.

Cultivation of the field crops should be continued faithfully. This is as important when there are frequent showers as in a dry season, for the rain compacts the surface of the ground

so that the moisture escapes rapidly. The cultivator should be used as soon after every downpour as the ground is dry enough. Likewise it will be necessary to continue the warfare on insect pests and fungous diseases, especially the potato bug, the cabbage worm and bean rust.

ORCHARD AND SMALL FRUITS

It is still possible to sow a cover crop in the cultivated orchard. Rye is a good crop for the purpose in the northern states, as it will not be winter-killed, and will prevent the soil from being washed in the spring. A cover crop takes up the moisture from the ground and in that way induces the hardening of the trees, in preparation for winter.

Old wood may be cut from the raspberry and blackberry bushes and if the new canes are making strong growth they may be cut back to three feet. Cuttings from gooseberries and currants may be made this month. They should be ten inches long and tied in a bundle to be packed in moist sand during the winter, in the course of which a callous will form at the end, making them ready for planting early in the spring.

Early August is the time for training dwarf fruit trees, the branches being tied in the shape it is desired to have them assume. Raffia is the best material to use, as it will not cut the stems. Superfluous wood should be cut out, but care must be taken not to break off the fruit spurs on apple and pear trees.

These spurs begin to form several years before the fruit is produced, while peaches and nectarines are grown on new wood.

It is not too late to start a strawberry bed which will bear next year, if potted plants are used. These plants may be purchased or may have been started in the home garden from runners a few weeks before. The roots are not disturbed in transplanting and if the ground has been well prepared and the plants are kept well watered, they will become established in a few weeks. The ground around them should be made very firm with the foot and a light mulch of straw for a week or two will be a help. The necessity of using perfect flowering or else both pistillate and staminate plants must not be overlooked. When setting out strawberries, it is always well to learn the varieties which thrive in a given locality, as some varieties are very particular as to soil and other conditions.

It is well to spray the apples again in August, using Bordeaux mixture combined with arsenate of lead.

WORK IN THE FLOWER GARDEN

It is advisable to order peonies, for late August and September is the best month for planting them out. There are few herbaceous plants which will give more genuine satisfaction than the peony, when one has become acquainted with the newer varieties, these sorts being a wonderful improvement over the old-fashioned "piney" of our grandmothers' gardens. There

are singles, doubles, Japanese, anemone, bomb and various other types. The list of sorts is endless and it will be a pleasure to study a catalogue before making out one's order. Peonies like rich ground, but resent the presence of fresh manure near the roots. The cost depends somewhat upon the age of the roots, but most people like to buy roots which will give flowering plants the following year. Plants that have been established for several years may be divided safely the latter part of August or in September, making several new plants. When one has once made a start with peonies, it is a simple matter to increase the number of plants. The roots should be always set so that the eyes will be from two to three inches below the surface.

If dahlias are in a windy situation, it probably will be necessary to stake them by this time, using raffia or soft tape to tie them. Many amateurs give dahlias too much water. In the average season they need no watering at all, but if they show signs of wilting, enough should be given to penetrate the soil for a foot. Probably one application will be enough. Many dahlias make excellent cut flowers if they are treated properly. They should be cut early in the morning while the stems are full of sap and stripped of their leaves for six inches from the end of their stems. Then they should be placed in water as hot as can be borne by the hand and allowed to remain until the water cools. After that they should be placed in cold water and

allowed to remain in a cool, dark place for twelve hours. With this preparation, dahlia blossoms will remain fresh for a remarkably long time.

Gladioli for table and house decoration are best picked just as the second flower from the bottom of the spike has opened. Good spikes should last in water for a week or ten days.

Sweet peas need an abundance of water to carry them through the hot weather of August. They, too, should be picked early in the morning and under no conditions must seed pods be allowed to form.

This is the only month of the year when it is safe to move bulbs of *lilium candidum*, the Ascension lily. Bulbs for new plantings should be ordered early in order that they may go into the garden before the end of the month. Unlike most of the lilies, they make a growth which shows above ground before fall.

Pansies started last month should be thinned to three inches apart. By the time they are six weeks old they will be ready for their permanent beds, but they will not make good growth unless kept well watered.

Dwarf asters make excellent pot plants for house decoration. They may be lifted when in bud, if the ground around them is first watered in order that a mass of earth may be moved with the roots, and they will soon burst into bloom.

Flowers may be easily sent by mail a considerable distance,

if they are picked early in the morning, wrapped first in oiled paper and then in newspapers and packed in a pasteboard box.

IN THE FRUIT GARDEN

Blackcap raspberries and dewberries are propagated by layering, the tips being pinned to the ground and covered with soil any time after the fruiting season is over. When roots have been formed, the new plants are separated from the old.

IN THE VEGETABLE GARDEN

It is still possible in most sections to make a final planting of beets and carrots, an early kind being chosen. Late varieties of celery may be set out, while blanching earlier sorts should be started. This blanching may be done with boards, paper strips designed for the purpose, sections of tile drain, or by banking with earth. Perhaps the best plan of all for the amateur is to use the new paper collars now on the market, which are easily applied and cost but a few cents.

Bush beans may be planted twice with fair prospects of a good yield, as they mature at this season in seven or eight weeks. There is still plenty of time for planting rutabagas, as they need not be harvested until the latter part of October.

Spinach is another crop for late planting and it is well to choose one of the Norfolk varieties for the reason that they grow on tall stems and are not likely to be filled with sand as in the

case of most spinach found in the markets. It is useless to try growing spinach unless the ground is made exceedingly rich. In the absence of manure, a commercial fertilizer will give good results. The following formula will answer for a spinach patch of four hundred square feet: Nitrate of soda, 2 lbs.; muriate of potash, 2 lbs.; phosphate, 10 lbs.

All seeds should be planted a little deeper in hot weather than early in the spring and it is necessary to firm the ground well.

The ripening of tomatoes may be hastened by placing them on straw in a cold frame with the sash in position. Onions will be ready to harvest in August. The proper time is indicated by the wilting down of the tops. In order to have this vegetable keep well, considerable care in harvesting must be used. After they are picked, the onions should be left on the ground in the field until thoroughly dry, being covered with straw or other litter at night. Then all immature and loose skinned specimens should be picked out, the others being packed in crates having open sides and stored in a cool, dry place with plenty of ventilation.

The garden should be yielding bounteous crops this month and in order to have the vegetables at their best it is worth while knowing just when to gather them. Snap beans, for instance, must be picked when young; corn, when it is in the milk; summer squash, before the shells get hard; Swiss chard, when the

outer leaves are well grown; and spinach, before the flower spikes appear. Brussels sprouts, kale and parsnips are better after they have been touched by frost. Often kale may be gathered until Christmas.

Seeds of mustard and lettuce for fall salads may still be sown, while parsley and corn salad will be ready in the spring if planted now and protected with litter when cold weather comes. It is worth while experimenting with some of the Chinese radishes, which grow to enormous size and can be stored in the cellar like other root crops for winter use.

THE MONTH'S WORK IN THE GREENHOUSE

Freesia and oxalis bulbs for Christmas blooming may be started, both new bulbs and those saved from last year. This is also the time to start the calla lily into growth by repotting it in rich loam but without increasing the size of the pot. Seeds of mignonette, nasturtiums, browallia, sweet peas and snapdragon may be sown now for winter blooming.

Violets propagated in the garden should be planted out in benches before the end of the month. Poinsettias plunged outside will supply cuttings up to the middle of August. The old stumps may be planted in benches.

Tomatoes started last month for growing under glass should go to the benches in August. Cauliflower is easily grown dur-

ing winter and the first seeds should be sown now, an early variety being chosen. Lettuce seed should go in at the same time.

English ivy cuttings made now, placed in small pots and plunged in ashes or in a shaded bench, will make good plants by fall.

LIVE STOCK AND STABLE

It is cruel to deprive horses of water in hot weather for hours at a time under the impression that they should not be allowed to drink when warm. No harm will be done, if they are allowed to take a few swallows at frequent intervals.

If the cows are slow in coming to the stable at night, make a practice of feeding them a little grain. It will invariably prove an inducement.

During the warm weather horses that are driven freely should have their feet looked after at least once a month.

Salt is needed now as well as in winter.

AUGUST IN THE POULTRY YARD

August is the month when special care must be given to keeping the poultry houses and yards clean, especially those occupied by the growing stock. If the yards are of limited extent, they must be plowed or spaded frequently. It is much better, however, to let the chickens run in a corn field.

In order to keep the houses in a sanitary condition, it is well to give them a coat of whitewash. The whitewash used by the government is particularly effective and is made as follows: One-half bushel of fresh lime is slaked with warm water, being covered to confine the steam. The liquid is then strained through a cheesecloth and eight quarts of salt, previously dissolved in warm water, is added. Three pounds of ground rice boiled to a thin paste is then stirred in boiling hot. Next a half pound of powdered plaster of Paris and a pound of glue, previously dissolved over a slow fire, are added to the mixture. Finally come five gallons of hot water. The white wash should be stirred well and allowed to stand for a few days, being covered to keep out the dirt. It is best to apply it hot. One pint of the mixture will cover a square yard of wall space. Once applied, it will last for years.

It is well to get rid of all surplus male birds and not to allow the pullets and cockerels to run together. Dwarf Essex rape may still be planted to give a supply of late green stuff. A light frost will not hurt it.

It is important that the chickens have room enough so that they will not crowd at night, and it is well to get them on the perches as early as possible. If they crowd into a corner on the floor some of them are pretty certain to be smothered or badly injured. If a perch is placed only six inches or a foot from the floor, the chickens will often learn to use it very quickly. If

they do not, it may be necessary to put some of them on it for a few nights. Being imitative creatures, they often may be taught to roost by putting a small hen in the pen with them. She will lead the way and they will follow.

August is a particularly good month to build a new poultry house for it will then have time to dry out before cold weather comes. It is impossible to say that there is any best type of house, but the average man can hardly do better than to construct a building of the shed roof type. It should be at least ten feet deep and six feet high in front. Four feet is about the right height for the rear wall. In building a poultry house one should plan to allow about four square feet of floor space for each bird, more rather than less.

Experience has shown that the fresh air house is far preferable to any other kind and the common practice now is to use little if any glass, the openings being fitted with hinged shutters to which muslin curtains are tacked. In sections where the weather is very severe an extra set of curtains is drawn in front of the perches on cold nights.

The poultry house should always face the south or southeast in order to get as much direct sunlight as possible. Sometimes it is an advantage to put a glass window in the west end in order to get the afternoon sunlight also.

Poultrymen are not agreed as to the kind of floor which is best. On the whole, an earth floor will give satisfaction if it is

built up a foot higher than the surface of the ground outside, and is covered with a litter. When a cement floor is used, it is imperative that there be a layer of stones or other coarse material at least a foot thick underneath it; otherwise it certainly will be damp. A double board floor is warm and rats may be kept out by using closely woven wire between the boards. Some poultry keepers lay the floors with a layer of heavy building paper between them as an extra precaution against dampness.

The perches should not be more than three feet above the floor and should be lower, if dropping boards are not used. Two by three scantling with the wide side up makes perhaps the best perches. Dropping boards, though commonly used, are not necessary and a great deal of work is avoided if they are dispensed with, as stated in another chapter. When dropping boards are used, they should fit tightly to the wall, in order that a current of air may not flow upward from back of them. Also, they should be made of matched boards and may slope slightly toward the front to facilitate cleaning.

Roosts, nests and all other accessories should be detachable in order that they may be easily and quickly removed. In no other way is it possible to keep the poultry house in a sanitary condition.

Everything should be taken out and the house given a thorough cleaning twice a year and August is a good month for the

work. It is not necessary to have elaborate nests nor to have them dark. Ordinary orange crates, divided in the middle and with a bar across the front near the bottom, make very satisfactory nests. The only advantage of the dark nest is that it may help to prevent egg eating.

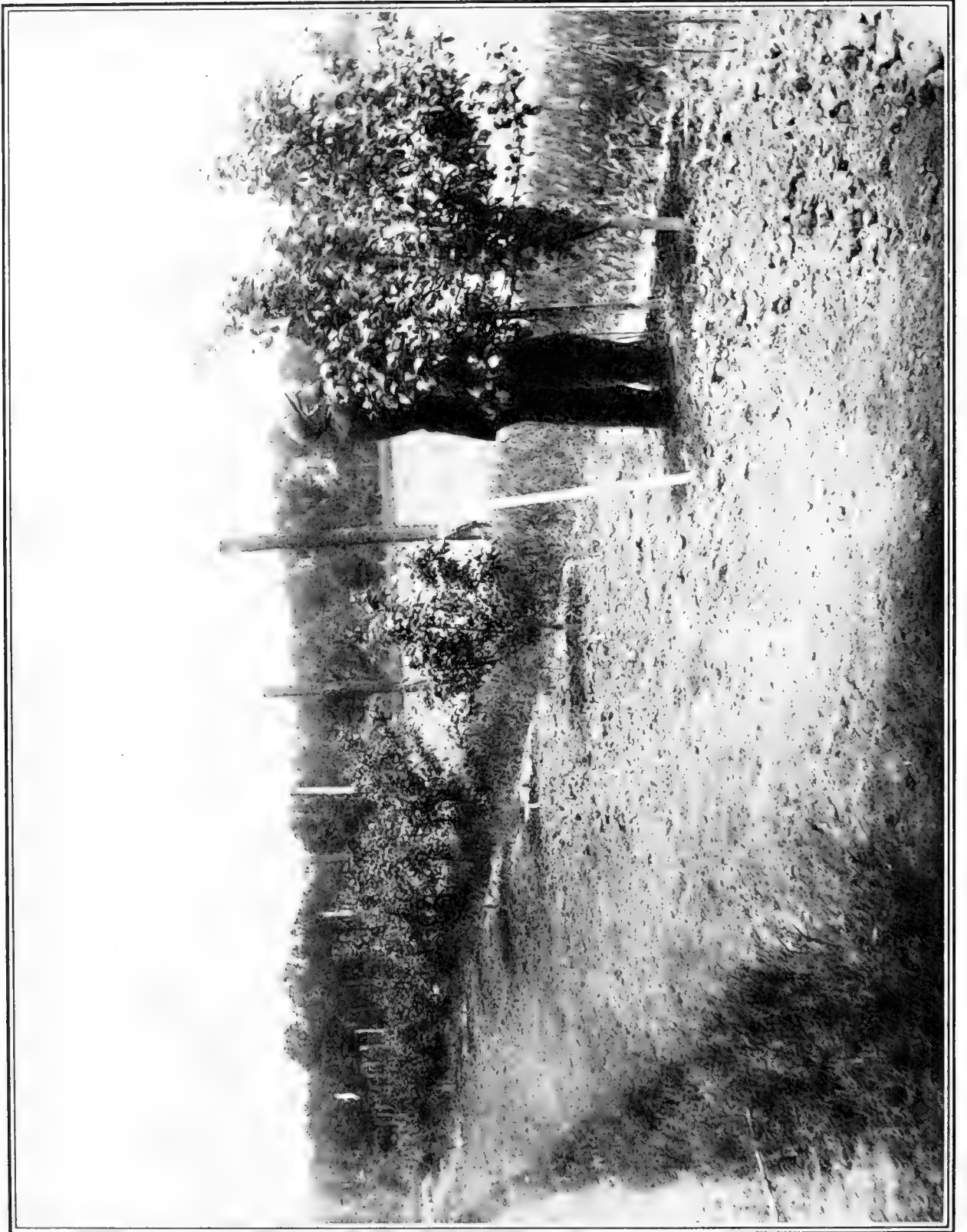
An inexpensive house will give just as good results as one costing several times as much. It is possible anywhere to build a satisfactory house at the rate of \$1 for each hen to be confined in it. The walls should be of single matched boards and the roof covered with a good grade of roofing paper. It is also an advantage to have roofing paper on the rear or north wall.

For egg production it is just as well to keep the hens in large flocks as to divide them into small pens. One hundred hens running together are as profitable as the same number in flocks of twenty-five, and the eggs will have just as high a degree of fertility, at hatching time.

If the poultry house is to be a permanent structure, it is advisable to set it on a foundation of concrete a foot above the ground and extending two feet below. This will help to keep it dry and will exclude rats.

SEPTEMBER

*“September strews the woodland o’er
With leaves of many a color,
The world seems brighter than before,
Why should our hearts be duller.”—Parsons.*



SEPTEMBER

WHAT so rare as a good lawn in late summer! Grass plots that were a beautiful, shimmering green in spring are now burned to a sickly brown. Even constant watering may have failed to save them. Indeed, faulty use of the hose may have contributed to their dismal discoloration. When, here and there, one finds a lawn which is green and handsome in spite of drought and torrid sun, one may feel certain that it was made right at the beginning and has been properly cared for.

If a new lawn is to be made, September is an excellent time for the work. Heavy showers at that season may usually be counted upon and the grass will get a fine start before winter comes on. Also, it is easier to get the ground in proper condition than in a late, wet spring. Many a lawn-making failure might have been a complete success if a few tile drains had been laid. Draining is by no means always necessary, but often it is a great advantage.

Without good soil, well prepared, a satisfactory lawn is impossible. Often it will pay in the end to draw on good loam, but in any case the earth should be thoroughly broken up to a depth of eight inches and a liberal amount of well rotted

stable manure mixed with it. To try making a lawn in any other way is throwing away money, unless, indeed, you are simply fixing up a place to sell, and then it is dishonest. Even if you are going to lay sod, the soil should be pulverized and enriched, but sodding is not to be recommended except for diminutive plots or for narrow stretches between sidewalk and street.

There is no excuse for making the lawn look and smell like a barn-yard every fall. Stable manure is almost certain to introduce weed seeds and the greater part of the plant food is washed away before it becomes available. Pulverized sheep manure, such as the seedsmen sell, is much better for the purpose of winter manuring, but the results are just as satisfactory when a good dressing of bone meal is applied in the spring.

If the lawn is strewn with dandelion and plantain, late summer is a good time to get rid of them. Plantain will die out if cut off an inch or more below the ground and a common asparagus knife is a good tool to use as the instrument of destruction. The dandelion is a more obstinate intruder and hard to eradicate. It is asserted that if the plants are cut off close to the ground and kreso dip (sold at the drug stores) be injected into the stump with a machine oil can, the roots will perish. Gasoline may be used in the same way. The plan may prove more satisfactory now, when the plants are somewhat exhausted, than in the spring. If bare spots follow the eradication

of weeds, grass seed should be sown immediately and thickly. The heavier the stand of grass on any lawn, the less opportunity will weeds have to flourish. Indeed, it is sometimes possible to crowd out plantain by enriching the lawn and sowing more seed.

September is also one of the best months of the year for setting out perennials, either those which were started from seeds in the spring or plants from the seed stores. Among the best perennials for the garden of the country home are the following:

NAME.	BLOOMING DATE.	COLOR.
Japanese Anemone,	Sept-Oct.	White, red, pink.
Aquilegia (Columbine),	June-Sept.	Yellow, white.
Hardy Asters,	Late fall.	Purple, white, lavender.
Boltonia,	Aug.-Sept.	Purple.
Canterbury Bells,	June-July.	Blue, white, rose.
Hardy Chrysanthemums,	Sept.-Oct.	Many colors.
Dicentra (Bleeding Heart),	May-June.	Rosy red.
Funkia subcordata,	Aug.-Sept.	White.
Funkia, variegated,	Aug.-Sept.	Blue.
Helenium Autumnale,	July-Sept.	Yellow.
Oriental Poppy,	Spring and summer.	Scarlet.
Hollyhock,	July-Sept.	Many colors.
Pyrethrum,	Aug.-Oct.	Rose.
Rudbeckia (Golden Glow),	July-Sept.	Yellow.
Sweet William,	June-Aug.	Many colors.
Trollius (Globe Flower),	May-July.	Yellow.
Tritoma (Red-hot Poker),	July-Sept.	Bright red.
Yucca,	June-July.	White.
Aconitum (Monkshood),	July-Sept.	Blue, white.
Delphinium (Larkspur),	All summer.	Blue, white.

There is no better month in all the year for planting peonies and these flowers are worth while growing in large numbers. Among the particularly good sorts are Festiva Maxima, Coquelin, Duchess de Nemours, L'Esperance, Duchess d'Orleans, Rosia Elegans, Couronne d'or, and Avalanche.

There is no more satisfactory perennial for the garden of the country home than the hardy phlox, which will grow in sun or partial shade with but very little attention, and yields its blossoms generously. They may be planted to advantage for striking mass effects or used equally well among earlier flowering plants. They require plenty of plant food and water in abundance. A heavy mulching of manure to be dug in in spring will keep them growing finely. Naturally they bloom in July and August, but if parts of the tops are pinched out before the buds form, the blooming season will be greatly prolonged. About once in three years the old plants should be divided. Particularly good varieties are Boule de Feu, Bridesmaid, Coquelicot, Miss Lingard, which is very early, and Independence, a pure white late sort.

Still another especially fine flower for the garden of the country home is the German iris, which glorifies the month of June. The German iris is exceedingly hardy and very easy to grow. It, too, may be divided after a few years, so that with a small beginning one can soon have a considerable collection. This is the true fleur-de-lis and likes best full exposure to the sun

with a warm, well drained situation. To tell the truth, though, the German iris is so accommodating that it will grow anywhere except in wet ground. Some varieties have a delicate fragrance and some will last a considerable time when cut. The one thing to remember when planting the German iris is that it will not tolerate the presence of fresh manure. This flower has often been called the poor man's orchid, but at the same time, it is rich and ornamental enough for the millionaire's garden.

The Japanese iris may also be started up to the middle of September. The flowers of this class are even more wonderfully beautiful than those of the German iris, but are not so easy to grow. People have the idea that the Japanese iris should have a moist location, but they will do well in any good soil if the earth is kept constantly stirred and watering is not neglected. Perhaps there is no place, however, where they appear to better advantage than on the bank of a pool or pond.

The bulbs of cannas, dahlias and gladioli should be lifted as soon as the tops have been killed and stored in a dry place, after they have been allowed to dry off. Perhaps the best way to carry over bulbs is to keep them in sand.

Shrubs planted in September in well drained ground are almost certain to live. If it is desired to increase the spring list, the following may be chosen: *Daphne*, a low, hardy evergreen, with bright pink fragrant flowers; *Deutzia Gracilis*, another low growing and very attractive shrub; *Forsythia Sus-*

pensa, a weeping form of Golden Bell, which looks very attractive, trained over porches or trellises; Kerria, an exceedingly satisfactory yellow flowering shrub, blooming most of the summer; Smoke Tree, a large shrub with misty smoke-like flowers in June; Sumac, a common shrub, bearing handsome red fruit in the fall and of great value in supporting grassy banks because of the heavy root growth; Spiræa Van Houttei, undoubtedly the finest of all the white spiræas; Snowberry, a medium sized shrub with attractive white, waxy berries in autumn.

There are many ornamental and shade trees which may be planted successfully in the fall, but this does not apply to those with soft roots like the magnolia. The beech tree, on the contrary, can be moved in September better than in any other month. Among the best ornamental trees for the home grounds is the catalpa. The Speciosa form is fine and bears flowers which are exceedingly attractive.

Another good tree is the Kentucky coffee tree, which is seldom troubled by pests and makes rapid growth. One must be careful, however, to order the male tree because the female form makes a straight, tall growth, which is not desirable. The linden or basswood tree is another low growing sort which is to be recommended. The common beech is a good lawn tree, if given plenty of room and the purple beech is especially charming in spring, before the color of the leaves darkens.

Few trees are more delightful, winter or summer, than the

cut-leaved weeping birch. Of the slower growing trees, of course, the oak is among the best and the sugar or rock maple is rightly among the most popular. The Norway maple is also a good lawn tree.

Among the best of the common trees for street use are the English ash, oriental plane tree and sugar maple. While the American elm is unsurpassed for this purpose, of late years it has suffered seriously from the attacks of the elm tree beetle.

The Carolina poplar is commonly planted because of the fact that it makes very quick growth. This fact, however, does not offer adequate compensation for its untidy habit and its tendency to ruin sidewalks, force open drain pipes and even send its roots into cellars. Its leaves fall very early and make a most unsightly litter.

Some of the fruit trees can be planted as successfully in September as in the spring, but in the northern states fall planting of the stone fruits, such as peaches, plums and cherries, should not be undertaken. Planting fruit trees with dynamite has been found of great advantage where the subsoil is very hard and in stony land. Not only does the dynamite make the excavation with a minimum of work, but it opens up the soil in all directions so that the roots are able to penetrate quickly. The use of dynamite is to be given serious consideration by the owner of a country home where conditions would seem to indicate that its use would be worth while.

Currants and gooseberries do well when planted in September, but it is better to leave raspberries and blackberries until spring. Grapes may be planted in the fall, but in the northern part of the country it is much safer to wait.

Fall planting of evergreens has been a mooted question for many years. Regardless of the merits of the discussion, however, it is a fact that evergreens may be planted successfully in August and September, but it is not wise to ship the trees long distances. It is of the utmost importance that the roots should not be allowed to dry out and that the soil be well firmed about them when they go into the ground. Properly planted, the rootlets will begin digging their way into new territory within fifty-six hours.

Of course it is not wise to set out evergreens when very hot or dry weather prevails. If there is a drought, it is better to wait until it is over. In any case, the newly set trees may need shading, which is easily given by setting up stakes and fastening bagging over them. There is one decided advantage in planting evergreens now; that is, they may be enjoyed throughout the winter. They are a relief to the eye when all the other trees are bare and bleak looking. Evergreens planted thickly perform a real service in protecting the house from high winds. An efficient evergreen windbreak will actually cut down coal bills. Arbor vitae makes the best evergreen hedge and is excellent for planting around a laundry yard.

Evergreens as commonly sold at the nurseries run from six inches to six feet high; the bigger the tree, the bigger the price. It is often feasible to buy trees fifteen feet high, if one cares to pay the bills. In fact, there are men who make a business of moving trees that have been established for many years and with surprising success.

IN THE VEGETABLE GARDEN

Winter celery will need banking, according to the directions given in August. Do not get soil into the hearts of the plants.

Potatoes should be dug as soon as the tops have died, but it is not wise to dig them before, for growth will continue as long as the tops are green. It is a good plan to pick out the good sized, smooth potatoes from well filled hills to be kept for seed. All the potatoes should be dried off and moved into a cool cellar as soon as possible.

If cabbage heads begin to crack, the remedy is to bend them over so as to break the roots on one side to check growth. If cabbages are to be used at once, the outside leaves may be left to grow. They will make good green food for the hens.

Lettuce, spinach and radish seeds sown in a cold frame will give crops for early winter. Beets and carrots should be harvested before the frosts kill the tops and one must be careful not to cut within an inch of the roots, when removing the tops of beets, for otherwise they will bleed.

The shell beans, if picked, dried and shelled, may be kept for winter use. It is well to sow rye where all the crops have been removed in order to add to the supply of humus in the soil.

GREENHOUSE AND WINDOW GARDEN

Freesia and oxalis bulbs should be started as early in September as possible, if flowers are wanted for the holidays. They should be kept in a cool place, but need not be set away in the dark as is the case with most of the other bulbs.

The paper white narcissi may well be started before the end of the month. Easter lilies in the greenhouse must be potted up fairly early.

The various azaleas need to be ordered now and potted as soon as received. It is also well to buy plants of bougainvillea to be forced later.

Cuttings from all the bedding plants and particularly geraniums, may be made to good advantage in order to have a sufficient number of new plants in the spring.

If sweet peas, nasturtiums and petunias are to be grown in the greenhouse, seeds must be sown now. Many of the garden flowers may be moved into the house for growing in the window garden, the list including geraniums, heliotrope, coleus, petunias and begonias. Oftentimes young plants will be found growing under the leaves that will give better flowers than those which are older.

Tuberose which have not flowered may be taken inside, and some people succeed with the *cobaea scandens* vine.

It is a good plan to go into the woods at this season and gather a supply of leaf mould which will be found in the hollows under the trees. Soil and sand are also to be stored for use in the greenhouse during winter.

GENERAL FARM WORK

There is no better month for seeding meadows or the permanent pasture. Meadows which have run out should be fertilized and sown to some other crop for a year before they are put into grass again. It is well worth while to apply fertilizer generously before seeding. Manure may be used up to thirty tons an acre with three hundred pounds of commercial fertilizer in addition. It is often found an advantage to use rye or winter wheat as a nurse crop, and the yield helps to pay for the fertilizer.

Corn for the silos will be cut this month. The value of ensilage has been proven over and over again and a silo is well worth constructing wherever dairy cows are kept. The corn may be left until danger of frost is almost at hand and then should be harvested quickly. If there is much of it, it will pay to use a harvester. Field corn has to be cut when the ears are well glazed and the wise farmer makes a careful selection of seed corn at that time. By choosing the best ears, although not

necessarily the largest, from the best plants, he is able to build up a strain of corn of more than ordinary value.

Fields that have been cropped heavily will need an abundance of manure to restore the plant food taken out. On a farm of considerable proportions a manure spreader will be found of no little value. It does the work better and much more quickly than it could possibly be done by hand.

Millet, cow-peas and buckwheat are to be harvested in September. Fodder corn should be cut and stacked before it has become too old to be palatable.

Cows will need field rations at this time and, if there has been a good season, there will be clover, millet and fodder corn. Many seasons there will be a second crop of hay which may be fed green. At all events the wise farmer will keep his animals off the meadows and fields in order that the grassland may begin the winter in good condition.

WORK IN THE ORCHARD

Fruit picking will be well under way. Many owners of country homes are finding that there is no little profit in the sale of fall apples, if they have a market close at hand. In any case, there should be a supply for home use. Often it is a good plan to go over the trees twice as the fruit does not all ripen at the same time. A final spraying of orchard trees with arsenate of lead will destroy great numbers of insect pests.

Grape cuttings may be made this month. Well matured wood of last season's growth should be chosen and cut into lengths of about ten inches. These cuttings should be tied in a bundle and stored in moist sand in a cool cellar with the butt ends up.

WORK IN THE SOUTH

In September many annuals such as candytuft, Canterbury bells, daisies, forget-me-nots, godetias, pansies, mignonette, poppies, sweet peas and phlox Drummondi may be sown.

All perennials may go into the ground and will have two months yet to grow. It will be well to shade the seeds during the middle of the day.

All salad plants may still be grown.

STABLE AND LIVE STOCK

September is a month in which all the animals suffer particularly from the attacks of flies. It is a good plan to cover the cows with a light blanket when they are being milked in order to keep them quiet.

The waste apples may be fed to good advantage to the hogs and sheep. The latter may be allowed to run in the orchard, but as a rule the hogs should be kept out as they are likely to do much damage.

Pigs which have been kept largely on grass will need a sup-

ply of corn from now on; also they must be kept well bedded and dry.

IN THE POULTRY YARD

Pullets which are to make the laying hens for the coming winter should be in their permanent quarters before the end of the month. Where only a few hens are kept, it often is advisable not to retain a male bird during the winter. The hens will lay just as well, if not better.

All old hens should be out of the yard by the end of the month. As a rule a laying hen is not profitable enough to keep after her second year. It is well to avoid feeding new corn to poultry.

Clean sand will be needed for the poultry houses and may well be hauled now, for the pullets should go into winter quarters next month.

Let the pullets become accustomed to open houses from the first and they will grow heavy coats of feathers, which will protect them in winter.

This is a good month to start poultry keeping with mature birds or well grown pullets. Often yearlings may be bought at a bargain. Most of the common breeds lay well, but there are several considerations to be thought of. In some sections white eggs are most in demand. They are laid by the smaller breeds, like the Leghorns, Anconas, Hamburgs and Campines.

The one fairly large bird laying white eggs is the Minorca. If brown eggs are preferred, the hens to look to are the Plymouth Rocks, Rhode Island Reds, Wyandottes and Orpingtons, among others. These brown egg breeds are all of good size and dress much better for the table than the white egg breeds. They usually are classed as utility poultry, while small hens like the White Leghorns are considered as representing the egg-laying type. Without doubt, the White Leghorns are the heaviest layers known to the poultry world.

On commercial plants the White Leghorn is most common, but for a home flock, the larger breeds are more in favor.

Another point is the color of the skin. In this country, the preference is for yellow skinned fowls, which include the Plymouth Rocks, Wyandottes, Rhode Island Reds, Brahmas and Cornish fowls. The Orpingtons have light colored skins and pink or dark legs, yet are growing in popularity in spite of prejudice.

IN THE APIARY

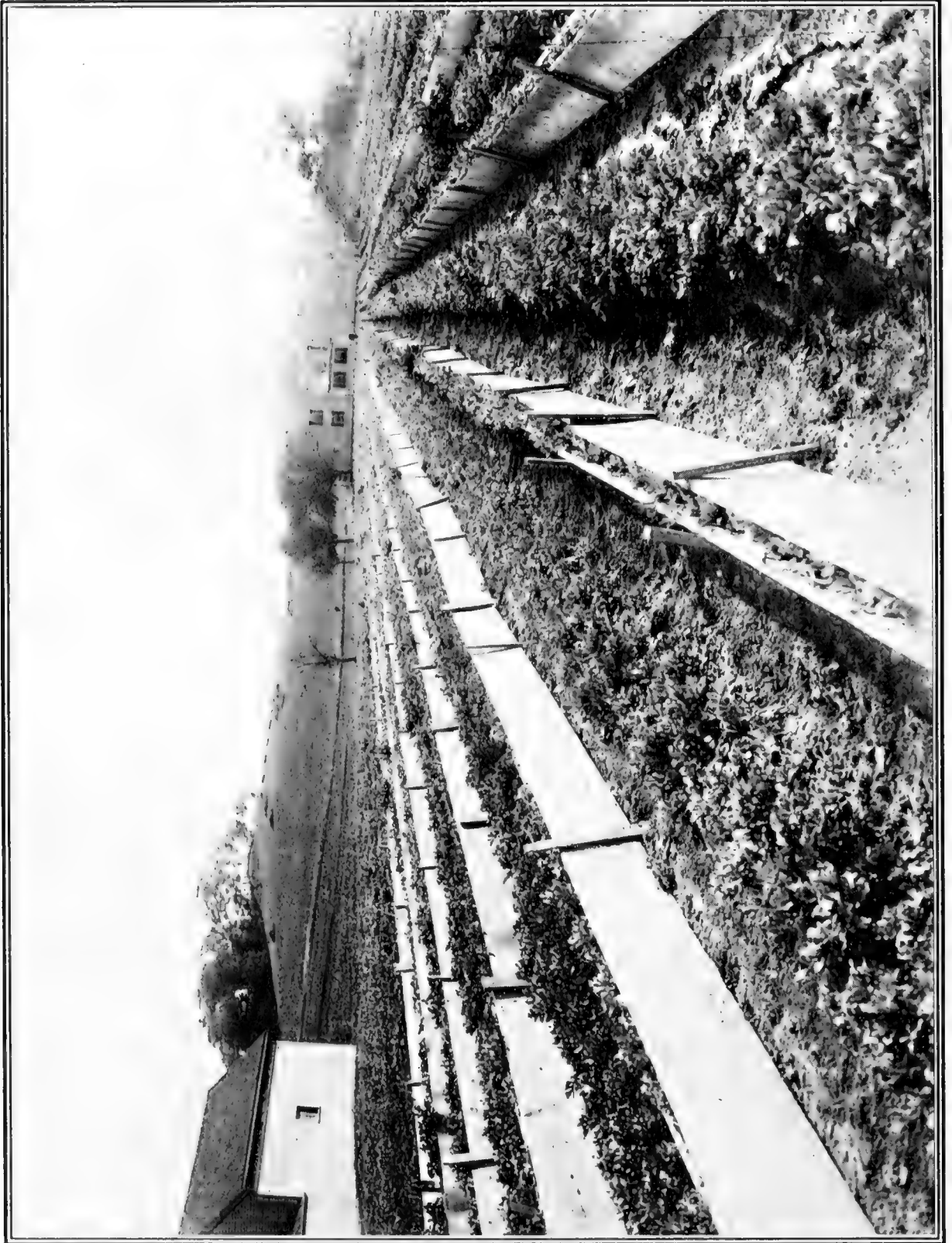
Much of the honey crop will be removed this month and the work may be done easily if a Porter bée escape is used in the manner described in the July chapter. The warmest part of a warm day is always the best time to open a hive, for then many of the bees are in the field. If you get a sting, scrape it off immediately. Then you will suffer little from it.

It is not safe to expose the honey for any length of time, or robbing will be attempted. The honey should be taken at once to a building or room which the bees can not get into. They have been known to remove much of the honey from stored combs.

Honey must be stored in a dry, warm place. Many people think it should be kept cool, but that is a great mistake. It candies if kept cool.

OCTOBER

*“Leaves are falling, mists are twining, and to Winter sleep
inclining
Are the trees upon the plain.”—J. G. Jacobi.*



OCTOBER

BLACK frosts in October will mark the end of the garden season. If the garden has been a success, however, there will be a bounteous supply of vegetables to store for winter use. Sometimes it is a problem to secure satisfactory storage facilities unless a cellar for the purpose has been constructed.

The ordinary cellar containing a furnace or heater is likely to be too warm, but in many cases this difficulty may be remedied by covering the pipes and possibly the heater itself with asbestos. Another plan is to partition off a corner of the cellar which may easily be done with but little expense, if wall board is used.

Potatoes are best wintered in a clean bin with a board floor. Most of the root crops, like carrots, beets and parsnips, may be kept for many months in boxes of sand, the sand being moistened slightly if the roots begin to shrivel. Only such parsnips and oyster plant as may be required for early use need be dug, for these two vegetables will keep perfectly in the ground where they grew, until spring.

When a considerable number of cabbages is to be stored, it is best to bring only a few to the house, the rest being placed head down in trenches and covered with leaves or straw; earth

being added as the temperature falls. The heads should be set side by side and not quite touching. Celery may also be wintered to good advantage in a similar manner, but the trenches should be wider and lined with boards. The covering of straw or leaves may also be held in place with a few boards and earth mounded over the trench before severe freezing weather comes. It is well to have a loose board at each end in order to give ventilation on warm days. A small amount of celery may be stored without difficulty in the cellar by setting the plants close together in a box of earth, care being taken not to get the soil into the hearts of the plants. If the tops show signs of wilting, the earth should be watered slightly. In whatever way celery is stored the outer leaves should be first stripped off. A little celery for immediate use is easily blanched by placing a few stalks in a butter crock with just enough water to cover the roots, being kept in a dark place. Squashes need considerable warmth and are best stored on racks suspended from the top of the cellar. It will be an advantage to have them near the heater, for they like a temperature of about fifty degrees.

In order to have apples keep well it will be necessary to have a cellar with an average temperature not much above freezing—thirty-three degrees is about right.

Late tomatoes may be ripened in the house by pulling up the plants and suspending them from the ceiling in the attic. Often they will last until Christmas.

After all the crops are in, it is an excellent plan to plow the garden, leaving it in ridges; unless, of course, it has been planted to rye. Fall plowing is an effectual way to destroy many insect pests. This desirable object is also assisted by raking up and burning the vines, cabbage stems, corn stalks and other refuse, all of which are used by various destructive insects as a winter home. This is one of the best months to set out rhubarb, and old plants should be given a heavy dressing of manure. The asparagus bed should also be fertilized, but first the tops must be cut down and consigned to the bonfire.

It is not necessary to dig turnips until late in the month for they are extremely hardy.

Early October is not too late for a sowing of Welsh onions, to be eaten in the spring. Cabbage seeds may be sown in the hot bed or cold frame and young lettuce plants for winter use should also be transferred to the bed or frame at once. They will need ventilation in abundance, however. A few parsley plants may be dug and planted in boxes for growing in the kitchen window. They will supply as much parsley as will be needed for garnishing, most of the winter.

WORK IN THE FLOWER GARDEN

It is just as necessary to clean up the flower garden as the vegetable garden and all waste should be destroyed by fire. Most of the perennial plants may still be set out.

If a frame is placed over the bed of English violets, blossoms may be picked in the spring very much earlier than would otherwise be the case. This is an excellent time to start a compost heap to furnish fertilizing material for next spring's garden. If a collection of old sods be mixed with manure and the whole occasionally turned, a large amount of valuable plant food will be secured.

GREENHOUSE AND WINDOW GARDEN

Paper white narcissi and Roman hyacinths should be brought into the light at intervals. The former can be forced in about a month, while the Roman hyacinths require hardly more than three weeks.

Tulips and other bulbs for the winter garden should be potted and put away in a dark, cool place to make root growth. Some people plunge them in ashes in the cellar, others use a cold frame and still other gardeners prefer to store the bulbs in a pit out of doors. The out of door situation must be well drained and there should be a layer of ashes or cinders under the pots. The amateur usually finds it satisfactory to start his bulbs in the cellar. When they are potted, the soil should be given a thorough soaking and unless the cellar is very dry, it will not be necessary to apply any more water. The bulbs must be kept shaded or the tops will start before the roots.

For early forcing, the paper white narcissi, the Roman hya-

cinth and the Duc Von Thal tulips are to be recommended, in addition to freesias and oxalis. When ordering bulbs, it is always well to mention the fact that they are desired for forcing. (See planting table in Appendix.)

New violet plants, for growing in a cold frame or in a cool greenhouse, may be purchased now. It is also the time to buy the azaleas, deutzias and other shrubs for greenhouse forcing. It is best to keep them for a time in a pit where they will get full daylight, but be protected from frost. It is very important to keep the chrysanthemums free from insect pests.

WORK IN THE FRUIT GARDEN

The winter apples will be picked this month in many sections. Nothing is to be gained by harvesting the fruit before it is ripe. The apples will keep no better and will be of poorer quality. The right time is when the fruit is fully matured, but has not begun to get soft.

Great changes in the methods of handling apples have come within the past few years. In a commercial orchard the fruit is now handled almost as carefully as eggs, every care being taken to avoid the slightest bruise. This means, of course, that the apples must be picked from ladders and it is best to use small baskets with a hook which may be slipped over a rung of the ladder. The proper way to pick apples and all similar fruit is to place the palm of the hand under each specimen and bend it upward. If ripe, it will snap off.

Climbing in the trees is to be avoided as there is danger of breaking off many fruit spurs. The use of an apple picker is not advisable unless the trees are so high that the fruit cannot be reached in any other way, for it is almost impossible to use these pickers without bruising the skin of the ripe fruit. The best way to sort the apples is to take them immediately to a shed or the barn and to spread them on a sorting table made by stretching burlap between a light frame on legs.

It is well worth while evaporating such fruit as does not seem likely to keep well. An evaporator for use on the kitchen stove costs but little and does very efficient work. It may be used throughout the winter if the apples begin to decay.

Of course, cider making will not be overlooked and there should be a good press fitted with a grinder on every country place. When making cider, it is worth while to go over the apples, cutting out all decaying spots. The early apples are of little value because the cider has a poor flavor, but most late winter varieties make excellent cider, although russet apples are considered the best of all for this purpose.

The culls from the apple orchard will be eaten with relish by the stock. Apples may be fed even to poultry to good advantage if chopped or perhaps smashed with the foot.

It is a good plan to top dress the apple orchard with manure by the end of the month. Wood ashes are also very beneficial and if poultry manure is used liberally, it should always be

supplemented with wood ashes or muriate of potash. The ashes are excellent also for the grapes and a liberal mulching with manure and ashes combined this month will improve next year's crop. Grapes are heavy feeders.

In many sections apple trees may still be set out this month. Some experienced growers buy one-year-old trees which they set close together in the fall, transplanting them to the orchard a year later. They prefer this plan to the buying of two-year-old trees.

GENERAL FARM WORK

The main crop of potatoes is commonly dug this month and if the field is a large one, it is worth while by all means to use a potato digger.

November used to be the great month for husking corn, and husking bees were the principal social events throughout the country districts. New methods of handling the corn have changed all this and when husking is to be done on a large scale, machines are commonly used.

If the soil seems to need improving, it will be worth while sowing rye or perhaps rye and winter vetch combined. The value of the combination lies in the fact that the vetch is a nitrogen gatherer. One bushel of vetch and a half bushel of rye give about the proper proportion for an acre. It is always advisable to sow rye on fields which are likely to be badly

washed. Level fields are often plowed in the fall because the action of the frost is favorable to the soil and also because the spring work is lightened in that way.

One very important October task is the cleaning up of all the fields, especially along the fences, where weeds are likely to accumulate. This is also an excellent season for laying tile drains and on many country places the expense of these drains will be more than balanced by the increased returns from the fields within a few years.

STABLE AND LIVE STOCK

It is time now to bring the sheep to the fold, but it will be a great mistake to keep them confined in close buildings. All they need is an open shed and protection from the wind. They should be allowed the run of the yards whenever the weather is suitable.

Many owners of dairy cows have found that it is a mistake to allow the animals to feed on stalks in the corn fields. In some rather unexplained way the result is frequently most injurious to the cows. The proper way to feed cornstalks is to cut them and cure them a little. When many stalks are to be fed, it will certainly pay to buy a corn shredder, for then the stalks will be fed to best advantage and with little waste.

It will be worth while to get in a generous amount of root crops for feeding the live stock during the winter.

The young pigs will need warm quarters at night, especially those that have just been separated from the sows. It is as important to have dry quarters for the hogs as for all the other farm animals.

Whether a horse should be watered before or after feeding is a much discussed question, but experiments seem to show that there is no particular advantage one way or the other, when grain is the feed. There seems to be a slight advantage in watering before feeding when hay alone is given.

It is rather cold now for washing the farm dog, but it is advisable to sift tobacco dust into the coat of the long-haired breeds frequently in order to keep the animals free from vermin.

OCTOBER IN THE POULTRY YARD

All the laying stock should be in winter quarters before the end of the month. Some of the pullets should be laying, but it is just as well if they do not start too early, for the eggs are likely to be small and later production interfered with. It is well worth watching for the pullets which lay first and, if they are satisfactory birds in other ways, to slip a band on their legs. These early laying pullets will be the birds to save for breeders.

From now on, fowls should be fed indoors, using a litter of straw, hay or leaves six inches deep. By this plan the birds get the exercise they need and all have an equal chance. At the same time have a hopper of dry mash accessible at all times.

For whole grain a variety will be appreciated. It may include corn, oats, wheat, barley, buckwheat and Kaffir corn. Corn, oats and wheat will be the grains most depended upon, however. A daily ration composed of two parts corn, one part wheat and one part oats will give good results, but the poultry keeper should be sure that he gets good sound wheat and plump oats. It is an advantage to use cracked corn because the birds have to do more scratching to get their fill, but it is well to feed some whole corn at night in order that the hens may be certain to fill their crops to their capacity before going to roost. The man who gets the most eggs is the one who can get the most food into his hens.

A green ration of some kind will be needed and it is well to have even more than the alfalfa in the mash. Cabbages, mangels, beets and similar root crops are good, but they should not be hung, as often advised, so that the birds must jump for them. The best way to feed the root crops is to cut them in halves and spike each half to a board. Often a supply of waste cabbages may be secured and stored under a covering of leaves on the north side of the house. It is not well to feed cabbages too liberally, however, for they tend to make watery eggs of poor quality.

Dried beet pulp from the grain stores makes a very satisfactory green ration, after being soaked for a little while in hot water. It gives off an appetizing odor and the hens soon

come to like it. If they do not eat it readily at first, the addition of some beef scraps and a little bran will tempt them.

Sprouted oats are very popular among poultry keepers just now and are really very efficient. To prepare the oats for sprouting, they are first soaked over night in a pail of warm water; then they are spread in a box to a depth of an inch and kept moist. The box must have holes for drainage and it is well to supply water at first by means of a watering can, so that the grains will not be washed about. Sometimes a piece of bagging is spread over the oats and the water poured on that. In any case, it is well to keep the grain dark until it has made some growth and it must have a warm location, as perhaps beside the furnace in the cellar or back of the kitchen stove.

Sometimes the oats have a tendency to mould, but this may be prevented by adding about ten drops of formalin to the pail of water in which they are soaked.

When the sprouts are from two to four inches high they will be right to feed. By that time they will have made a solid mass in the box and one square inch for each bird should be a day's allowance.

It will of course be necessary to keep several boxes going in order that the supply may not run out.

Oftentimes a rack containing six trays is used and there are a number of patented oat sprouters on the market.

OCTOBER BEE WORK

The bees should go into winter quarters late this month. Professional bee keepers often winter their bees in cellars but it is better for the amateur to leave them out doors. Ten frame hives are needed for outside wintering, though, unless double wall coverings are used. These coverings may be purchased of dealers in bee supplies and fit over the other hives, the space between being filled with leaves or chaff.

Ten-frame single wall hives will carry strong colonies through the winter if properly protected. One good plan is to build a rough shed, open on the south side, where the hives may be set close together, straw being filled in around and back of them.

Another plan is to wrap the hives in heavy building paper which has been oiled, in order that it may shed water. Whatever plan is used, an empty "super" should be set on each hive, with a honey board under it, and a bag filled with leaves or chaff stuffed into the "super," the cover then being put on in the usual way. It is on top the hive that the most protection is needed. As an extra precaution the two end frames in each hive may be removed and chaff-filled dummy frames substituted.

It is wise to make sure that each colony has sufficient honey to carry it through the winter, about thirty pounds being

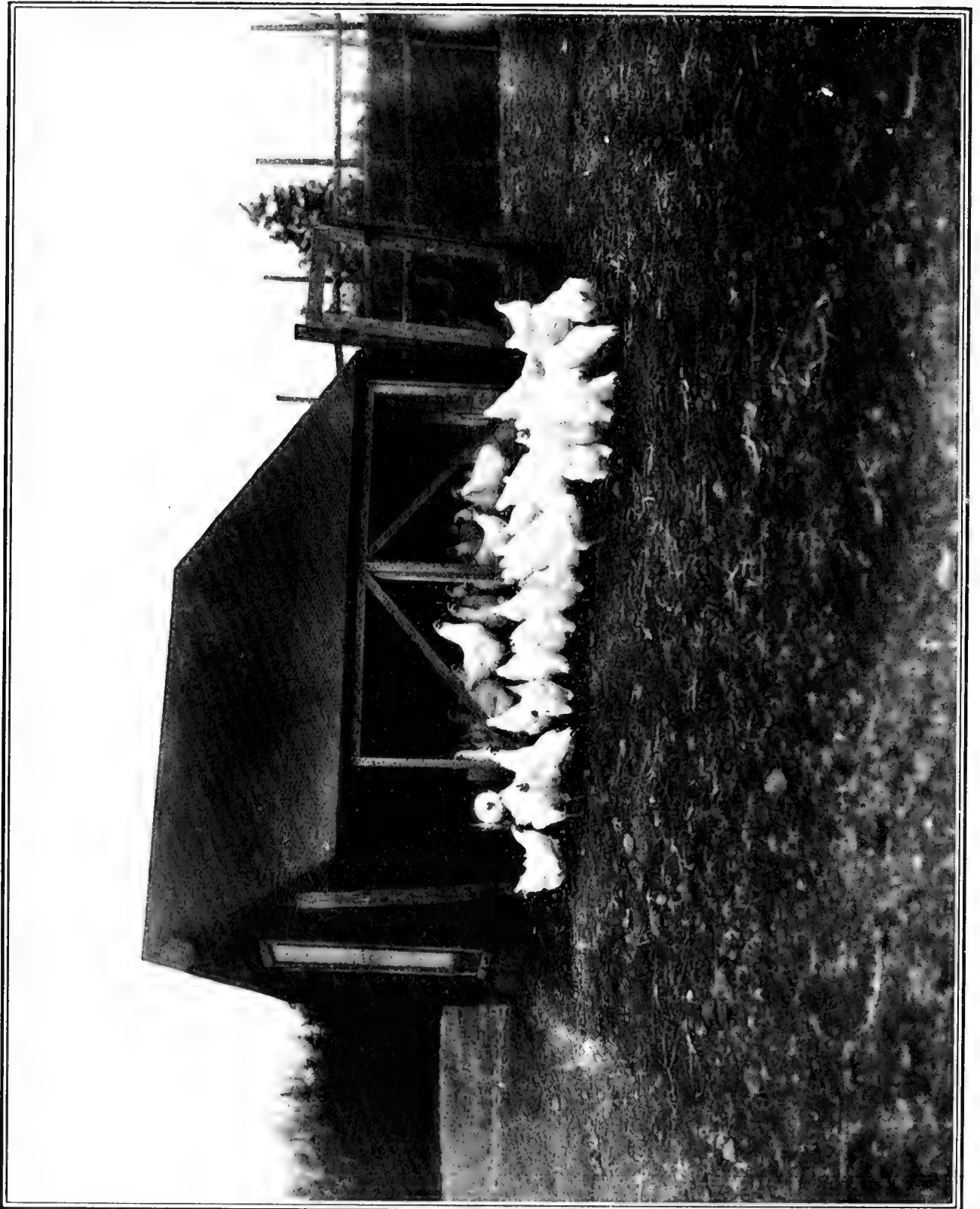
needed. While the weather is yet warm, a thin sugar syrup may be fed to colonies which seem deficient in stores. Later, it is better to use candy, which is made by dissolving pure granulated sugar with a little water. The sugar and water should be stirred over a slow fire for some time and then allowed to harden. It must not be allowed to burn under any circumstances, for burned sugar is fatal to bees. The hard candy is to be placed on the top of the frames. The heat of the colony will soften it and it will run down just fast enough to be used by the bees.

Mice sometimes give trouble in winter and it is well to fasten a strip of woven wire, coarse enough to let the bees through but to exclude the rodents, over the hive entrances.

NOVEMBER

*“Talk not of sad November, when a day
Of warm, glad sunshine fills the sky of noon,
And a wind, borrowed from some morn of June,
Stirs the brown grasses and the leafless spray.”*

—John G. Whittier.



NOVEMBER

IN THE northern part of the country, November is the month to make the garden snug for winter. If leaves are plentiful, they may be raked up and spread over the perennial beds, but it is best not to do this work until after the ground is frozen. In the absence of leaves, straw or litter from the poultry house will serve the purpose, but it should not be more than two inches deep. Lilies and montbretias will need protection in the same way.

The more tender roses will need protection, too, and the best plan is to put straw overcoats on them. If long straw can be secured, it should be placed lengthwise and tied in place with strings. Then if a little more straw is doubled in the middle and put over the top like a cap, also being tied firmly, perfect protection will be given. One point is not to be overlooked; if the straw covering is made too heavy the plants will be smothered. There must be some circulation.

All the roses will be better for a mulch of coarse manure applied this month. Those of the hardier sorts will be sufficiently protected simply by heaping earth around the base, but the use of manure is better.

Rhododendrons and azaleas and other tender shrubs will

often go through the winter safely, if a board shield is so placed that they will not receive the full force of the hard winds. In spring this shield may be shifted to the south side so that growth will not start too soon. Often the rhododendrons may be protected by the simple expedient of standing evergreen boughs among the shrubs.

It is a great convenience to have a cool greenhouse, which may be nothing more than a lean-to without heat, for in such a house many half hardy plants may be safely wintered.

Straw or litter of some sort will be required for the strawberry bed after the ground has frozen hard. The object of this covering is not to keep the frost out, but to prevent the alternate freezing and thawing which tends to heave the plants out of the ground. If the manure from the poultry house is thrown on the litter between the rows, in the course of the winter it will be washed into the soil and prove a fine stimulant.

Newly set trees will be benefited by a mulch of coarse manure or of straw. It is always well, however, to leave a space of two or three inches between the mulch and the tree trunk; otherwise mice will burrow in the litter and feed on the bark. Oftentimes it is necessary to take precautions also against the depredations of rabbits. Protection is easily secured by means of wire mosquito netting, cut into strips large enough to go around the tree. These strips should be four or five feet high and, if they are first rolled into a cylinder, they may easily be

snapped into position. There are veneer protectors on the market which are efficient and durable. Also there are paints guaranteed to keep away both rabbits and mice. If, however, the wire guard spoken of is made to fit tightly at the top, it will also secure protection against the beetle from which the tree borers come and which lays its eggs on the bark, usually near the bottom of the tree.

November is an excellent time for examining the trees throughout the orchard in order to discover borers, if there are any. Their presence may be detected usually by a little mound of sawdust and perhaps by a few drops of gum. Often the borer works very close to the ground so that a careful examination is needed. The apple tree borers have a way of working straight through a tree, while the peach tree borers usually make their holes just inside the bark. It is well to have a sharp knife along for then the borer often can be easily cut out, but it is better for the tree to make the cut up and down rather than across. If the knife method is ineffectual, a stout, pliable wire must be called into play. By jabbing this wire into the hole the pest at the end may be crushed.

If there is painting to be done around the country home, this season is often favorable, especially after the ground freezes so that there is no dust blowing. There is more time now than in the spring and the paint will last as well as though exposed to the rays of a summer sun soon after being applied.

In country houses where wood is burned an unpleasant experience may be avoided by having the chimney cleaned. If there is a fireplace, an old blanket or piece of canvas may be fastened over it and the soot loosened by means of a piece of iron attached to a cord and let down from the top.

Evergreens and hedges should be kept free from snow which is likely to break them down. It is a mistake to trim hedges with a wide, flat top in the northern states for the snow lodges there and is almost certain to do more or less damage in a hard winter.

If injury to raspberry or blackberry bushes from the cold is apprehended, they may easily be bent down and partly covered with earth. In case blackberry plants are too stiff to be handled in this way, the roots may be loosened with a fork. It is best to wear gloves to protect the hands.

If spinach for spring use has been planted, that also will need winter protection in the shape of straw or strawy manure.

Before the winter sets in, it is advisable to make certain that the gutters are free from leaves or other refuse. Doing so may prevent a stained ceiling in the spring.

It is not too early to begin to invite the birds to be friendly during the cold winter weather. Suet and bread crumbs may be provided for them, but one must harden his heart sufficiently to prevent the English sparrows consuming it to the exclusion of the more desirable birds. There is a suet cake now on the

market containing various grains and adapted to the feeding of all the winter birds.

A great many of our feathered friends may be coaxed to linger by giving them shelter and food; even blue birds have remained in New England all winter with such inducement. It is better to put up bird houses now than in the spring, for the action of the weather in the course of the inclement months will make them appear somewhat less new and therefore, from the birds' point of view, more habitable.

Black knot on the plum trees can be discovered as soon as the leaves have dropped and November is a good time to cut it off. The limbs should be removed at a point below the knot and burned.

If peach, plum and quince trees have been making a rapid growth, it is a good plan to nip off the ends of the branches. Quince trees are preferably grown in bush form. If four or five new sprouts are allowed to spring up from the ground each year and an equal amount of old wood cut away, the tree will constantly renew itself.

The pompon chrysanthemums are the only flowers left in November and their life may be prolonged by protecting them from the rain. It is the freezing of the water on the flowers that spoils them.

It is easy to start new rose plants from cuttings made this month. Cuttings should come from new wood and be about

eight inches long. If tied in bunches and set upright in moist sand in a cool place, they will be ready for planting out in the spring.

Most of the hardy lily bulbs arrive in this country in November and should be planted at once. The loose scaled bulbs deteriorate more rapidly when kept out of the ground than the solid bulbs like tulips and narcissi. It is always a good plan to cover the ground where the lilies are to go with a coating of fresh manure before the earth freezes. Then there will be no difficulty in planting. In order to do their best, lilies should be planted deeper than ordinarily is the case. They can well be set from six to ten inches below the surface, and there should be a handful of sand at the bottom of the hole.

Now that the leaves are off, it is a good time to look over the trees for egg clusters of various pests. In New England, gypsy moth eggs will be found not only on the trees, but on outbuildings, fences and brush heaps. It will pay to get rid of them at once. Old trees may be scraped to advantage, but not deeply enough to cause injury. A hoe or a regular scraping device may be used. The white, frothy masses of the tussock moth may be looked for on the various fruit trees.

Rhubarb can be forced at any time during the winter in a warm cellar or in the greenhouse. Roots should be dug now and be allowed to freeze solid before forcing is attempted. It is best to have roots that are at least three years old. When it

is desired to start the roots into growth, they should be placed in a box of good garden soil and given a warm location and one which is nearly dark. Often a corner of the cellar can be shut off with some old boards or a heavy blanket. There is no reason why the roots can not be simply set on the floor and earth heaped around them. The soil must be kept moist and the plants will take up water very rapidly. Growth will soon start and in five or six weeks there will be a supply of stalks ready for use. They will be blanched, however, and there will be very little leaf.

Asparagus may be forced in the same way, although the roots are not to be frozen, and the seed stores now sell forcing crowns of sea kale, a vegetable which is popular on the other side of the water, but not very well known here.

It is well to save all the leaves that can be gathered. They are valuable for use in the poultry house as litter and for banking around the cold frames and hotbed. If needed for no other purpose, they are of no little value as fertilizer, especially if allowed to rot during the winter. Leaf mould is unsurpassed for house plants.

NOVEMBER GREENHOUSE AND WINDOW GARDEN WORK

Cyclamen bulbs started now will make good, strong plants. They may be secured at the seed stores and should be planted with the nose a little above the soil. It is worth while growing several cyclamen plants not only because they are attractive

in the window garden, but also because they provide an abundance of cut flowers all through the spring. These flowers in water will keep easily for a week or ten days, and often are more acceptable as gifts than some of the more common kinds that have a strong perfume.

Paper white narcissi, Chinese lilies and the little dwarf tulips make excellent Christmas gifts and will be in flower at the holiday season if started the middle of this month. They may be retarded, if necessary, by keeping them cool.

Before the ground freezes, a supply of good garden soil should be gathered. It will be needed later on. It will be an advantage, too, to go into the woods and secure a supply of leaf mould.

The lily of the valley pips arrive from abroad in November and should be stored in sand until needed for forcing. Clumps, rather than pips, are used for the garden and may be set out in November.

An abundance of fresh air for the violets both in the greenhouse and in cold frames will be needed until the weather gets very cold.

Plant lice grow numerous in November in the window garden as well as in the greenhouse. Nicotine may be used as a weak spray, but with a few plants the leaves can be kept clean if they are washed frequently with soapsuds or even with water as hot as the hand can bear. If much soap is used, the plants

must be carefully rinsed afterward. An easy way to treat all house plants, when not in flower, is to cut a piece of cardboard so that it will fit over the mouth of the pot with a slit to receive the stem of the plant; using both hands to hold this cardboard in position, the plant may be dipped into a tub or bowl.

Palms, ferns and rubber plants must be examined for scale, which is best removed with a stiff toothbrush. English ivy needs frequent sponging with soap and water, if it is to thrive. Often a spray of this ivy will make splendid growth if the roots are kept simply in a bowl of water. Rubber plants also need frequent cleaning. The use of a patent dustcloth, of which several kinds are now on the market, seems to give as good results as soap and water. It is a mistake to use olive oil or any similar substance with the idea of brightening the leaves. It simply clogs the pores. It is just as unwise to use bits of meat in the pots, for the meat soon decays. Often a plant may be benefited by the use of a good commercial plant food, the green of the foliage being deepened and the number of flowers increased. In some ways this fertilizer is preferable to liquid manure, although the latter gives excellent satisfaction. It may easily be made from pulverized sheep manure.

When a plant actually refuses to show signs of improvement, it probably needs repotting, although not necessarily a larger pot. It is always well, however, to make sure that the trouble is not due to lack of drainage. If a pot is too large for

the plant, the result will be the same, for the soil will become sour.

This is the time to plan for a mushroom bed and mushrooms can easily be grown in a greenhouse under the benches. Fermented horse manure is needed, with about half its bulk of straw. Mushroom growing is not as simple as often supposed and a good book on the subject should first be read before the work is undertaken, or else advice should be sought from the nearest experiment station.

STABLE AND LIVESTOCK

It is important to keep the livestock well bedded during the cold weather. Probably straw is best for the purpose, although swale hay, peat and leaves will answer. Shavings are sometimes used, but when added to the soil, they have a tendency to make it sour.

If the hay being fed the horses is at all dusty, it should be moistened. This is particularly true if the horse happens to have the heaves.

In very cold weather the ensilage in the silo is likely to freeze, but this can be prevented to a large extent by keeping the silo tightly covered. Sometimes it is an advantage to throw a layer of hay over the top or to use a heavy canvas blanket. Throwing the ensilage to the middle of the silo is also a help. The frozen ensilage should be kept away from the sides and

the doors of the silo must be kept shut. Ensilage is not injured by freezing, but will spoil quickly after it thaws out. Ensilage may be fed to sheep and lambs to advantage.

There should be a cutting machine in every barn where considerable live stock is kept. Oftentimes much waste is avoided by cutting hay, cornstalks and vegetables. Alfalfa hay run through the cutter is excellent for brood sows. If cut fine, it will make a splendid green ration, too, for poultry.

With many people this is a favorite month for killing a fat hog or two for home use. It is the common custom to drive a knife into the throat of the beast and allow it to bleed to death. This custom is cruel and without justification. The humane way is either to shoot the animal with a rifle or to first stun it with a blow on the head. In either case, the throat should be cut immediately, to insure proper bleeding. Two hundred pounds is considered about the right weight, but the meat will be better if the hog is killed when it weighs only one hundred and seventy-five pounds.

IN THE POULTRY YARD

The pullets may often be induced to lay by feeding wet mash a few weeks, commencing a week or two before the date on which the eggs normally should begin to appear. Exactly the same mash as that commonly fed dry may be used and should be made just moist enough so that it will crumble in the hand,

when squeezed. Perhaps the best time to feed it is at noon and too much must be avoided or the hens will sit around for a long time instead of scratching in the litter for fine grain.

A little ground bone is also an excellent stimulant for the pullets, but it must be fed with care and, above all, it must be fresh. An ounce to a hen three times a week will be sufficient.

Whereas it is wise not to feed a great amount of corn to growing chickens, it may be given much more liberally just before and after the pullets begin to lay. If a third of the scratch feed be corn, it will not be too much.

It is advisable not to keep pullets and old hens in the same pen.

If hens are found with scaly legs, the best treatment is dipping the legs into a pan containing a liquid obtained by pouring hot water on tobacco leaves of a cheap grade and allowing it to cool. This treatment may be carried out two or three times if necessary and the legs afterward rubbed with vaseline.

DECEMBER

That time of year

*When yellow leaves, or none, or few, do hang
Upon those boughs which shake against the cold,
Bare ruin'd choirs, where late the sweet birds sang.*

—Shakespeare.



DECEMBER

THE big job of December is harvesting the ice crop, although in some seasons it is necessary to wait until a month later. The sooner the ice is in, however, the better. Few tools are required, a saw, axe, scoop, a pike pole or two, a sled or low-down wagon if the ice house is not on the edge of the pond, and some sixteen foot planks. The scoop is used to clear the surface of the ice, which is then marked off into squares two or two and a half feet wide. Next it is sawed into cakes, which are hauled out with an ice hook. The planks are needed for loading the cakes onto the sled or wagon.

The ice house need not be large. If it is sixteen feet square it will hold enough ice for a dairy of forty cows. When it is being prepared for the crop, it is well to lay poles across the bottom to provide for drainage. Next a heavy covering of straw and sawdust will be needed for the ice to rest upon. The cakes should be packed closely, with broken pieces worked into the chinks.

In order to keep out the air, a space six inches wide must be left all around the sides of the house, to be filled in with sawdust and leaves, or sawdust alone, packed as tightly as possible. When the ice is all in place, sawdust or finely cut straw to the

depth of a foot should be spread over the top. Thus packed, the ice will keep for a long time, but it is well to have a little ventilation at the top to allow the escape of foul air. On many country places, a brook or small stream may be dammed so as to yield an abundance of ice. Solid water ice is always to be chosen. Snow ice melts much more quickly.

Muddy, dirty barn yards, hog lots and sheep runs are to be deplored. Not only are they offensive to the eye, but they detract from the satisfaction of doing farm work and they are bad for the animals. There is often plenty of time late in the year, before the ground freezes hard, to put in a few tile drains, laying them below the frost line. The expense will be little and the results well worth it. If there is no low place where the water can naturally be carried, a deep blind well may be dug and the bottom filled with stones. Usually the water from the drains will soon seep away when led into such a well. Gravel or coal cinders spread on the ground will help keep it in sanitary condition.

Automobiles are not very satisfactory winter vehicles. When they are put away for the winter, they should be thoroughly cleaned and the bright parts covered with boiled linseed oil to prevent rusting. Then they should be jacked up in order that there may be no weight on the tires and the latter may be partially deflated.

The winter is an excellent time for manuring the orchard,

but it is not advisable to fertilize young trees heavily, or wood growth will be forced too much.

If there is a wood lot, now is the time to get out the firewood, as well as to cut posts for the next season. If cedar posts with the bark on are to be used for an arbor or pergola, it is always best to cut them in cold weather, for the bark sticks better.

Peach trees that are beginning to fail may as well be pulled up now. It is best to give the new peach orchard a different location.

This is a good time to spray all fruit trees for San Jose scale, using prepared lime sulphur wash or one of the soluble oils.

In the South, most of the fall vegetables may be sown this month. Peas, spinach, radishes, lettuce and endive may go into the ground, and tomatoes, egg plants and peppers may be started in spent hotbeds. Nut trees may be planted to advantage in December.

GREENHOUSE AND WINDOW GARDEN

It is advisable to sow radishes once in ten days, in order to have a constant succession. This applies to lettuce, too. Grand Rapids and Early Dutch Butter are good varieties of lettuce for forcing.

Gladiolus bulbs planted now will bloom in March. The seedsmen should be asked for kinds suitable for forcing.

A new lot of bulbs should be brought into heat every week or two. Only the Duc Van Thol tulips can be forced successfully until after the new year. The paper white narcissus and the tulips just mentioned, as well as the Chinese lily and the single hyacinths, may be grown in water, and the plan is a particularly good one when the flowers are to be used for house decoration. China or glass bowls are used and nearly filled with fine pebbles, in which the bulbs are set. All the bulbs named, except the Chinese lily, must then be set in a cool, dark place until they have made a heavy growth of roots. The hyacinths are often forced in special glasses designed for the purpose, but it may be necessary to keep them in the dark for six weeks or two months. The water in the glasses should barely touch the bottom of the bulbs and should contain a few pieces of charcoal.

When the water in the bowls or glasses needs changing, it must be flooded out by turning more in. If an attempt to pour it out is made, the rootlets will be broken off.

When potted bulbs are brought into heat, it is best not to expose them to bright light at first, or to keep them very warm. Watering with warm water will hasten growth, but it is best to keep the bulbs from direct sunlight until the flowers begin to open.

Large hyacinths may be grown in a single five-inch pot. Smaller specimens look better if there are four in a six-inch pot.

Eight or ten weeks are required to make a good root growth. Shorter time is needed for tulips and paper white narcissi. When they are grown in water, a week or ten days in the dark is sufficient. The narcissi are so easy to grow that it is well to keep right on forcing them up to the first of March. Soft, and preferably rain, water is the best to use.

The Easter lily should be started not later than the first of December in order to have it in bloom on Easter Day.

The calla lily should be in flower soon, if kept in a rather warm, light position, without too much sun. Tepid water should be given freely, but not allowed to stand in the saucer.

Hydrangeas must be brought into the greenhouse late in December, if they are to be grown for Easter.

When the chrysanthemums have ceased blooming, they may be cut back and stored in a cool place under the greenhouse benches, or even in a cold frame. Geraniums, bouvardias and carnations may take their place.

This is the month to make cuttings of crotons, dracaenas, rubber plants, and Glorie de Lorraine begonias. The last named are best started from leaf cuttings.

When applying water to Glorie de Lorraine plants, it is well to exercise care not to wet the leaves.

Cinerarias and calceolarias do not thrive in a warm greenhouse. A night temperature of about 45 suits them.

It is necessary to fumigate the greenhouse twice a month or

nearly as often. Any one of the tobacco preparations now on the market may be used.

More house plants suffer from over than from under watering. When the soil becomes dry, water should be given until it runs into the saucer. No more will be needed until the soil is seen to be dry again.

When mold appears on the pots, they should be washed, or evaporation will be checked.

The best plants for a shady window are the begonias, rubber plants, camelias, ferns, and the ivies. The Chinese primrose will do well in partial shade.

If plants become frozen, they should be dipped in cold water or sprinkled as soon as discovered and kept in a cool place out of the sun until they have thawed out. Several thicknesses of newspaper wrapped around house plants will protect them from considerable cold. When the temperature turns low it is well to place a newspaper or two against the glass in a window where plants are growing.

It must be remembered that plants need fresh air even at this season. Those near a window naturally get more than those at a distance, but it is well to open doors or windows for a few minutes each day, care being taken that the air does not blow directly on the plants.

Hydrangeas for late blooming should be watered only enough to keep the soil from drying out. It is the resting season

and a cool, light cellar, or a cool greenhouse is a good place for wintering them.

LIVESTOCK AND STABLE

All the livestock should be on full winter rations by the first of December. Grain is expensive these days and it is well worth while making a careful study of the feeding question. Usually important information may be obtained from the nearest experiment station or agricultural college. The professors at these institutions fairly beg people to ask questions. It is a fine thing for the man who owns a country home if he can take the short winter course at one of the state colleges. Sometimes there is a son or a daughter who can find time for this.

The quantity of feed required by cows will depend upon the amount of milk they give. It is estimated that a cow yielding ten quarts a day will require five quarts of the following mixture twice a day: Three parts wheat bran, one part corn meal, one part cottonseed meal, by measure. In addition, there should be ensilage, hay or other roughage.

It is better to have the heifers freshen at two and a half than at two years.

Lime water made by slacking twenty pounds of lime in a barrel of water, where it may be allowed to stand until it clears, will prove efficacious in cleaning all the dairy utensils. It is important to exercise constant precaution, or milk and butter

will be off in flavor at this season. The flavor is also easily affected by the feed and such vegetables as turnips are not to be fed freely.

The kitchen waste, including the dish water (if it is free from soap and washing powder) will go a long ways toward keeping one or two brood sows. Bran and middlings may be added as needed. Some roots like turnips and carrots, will be beneficial and it is well to keep a little earth or a sod or two in the pen at all times. Ashes, salt and charcoal are needed, too, and if some straw or some strawy horse manure is thrown into the pen occasionally, the animals will get needed exercise working it over. Shavings make good bedding and a trough which can not be tipped over should be provided. It is well to burn this trough occasionally and build a new one. The idea that a hog must live in filth has no foundation. This animal is naturally quite as cleanly as the other farm stock.

In winter the pigs can be kept free from lice only by spraying them. Kerosene emulsion does the work well and an application is needed every two or three weeks.

Brush and cloth are sufficient for use when cleaning colts. The curry comb is too harsh.

Molasses may be fed the horses and cows at this season to advantage. It adds to the palatability of the other rations, besides having much nutritive value of its own.

If the harness is oiled frequently in cold weather it will be

easier to handle, for it will not get stiff, and it will also last longer.

DECEMBER POULTRY WORK

At this season, when the days are short, the hens spend much more of their time on the perches than off. While daylight lasts, it is important to keep them busy all the time. With a deep litter on the floor and the whole or cracked grain thrown into it, they will be forced to scratch for their rations and in that manner will obtain the exercise they require. If a wet mash is given, there should not be enough of it to entirely satisfy the hunger of the birds, or they will stand around in a corner instead of working in the litter. Sometimes lazy hens will fill up on dry mash rather than scratch for whole grain; in that event, keep the dry mash hopper closed until noon.

It is difficult to tell just how much scratch grain to feed. On general principles, a small handful to a hen is about right, but it is well to stir the litter occasionally with the foot in order to ascertain whether any of the grain is to be found on the floor. If too much time is spent at the dry mash hopper, it may be an indication that sufficient scratch grain is not being given.

As the litter becomes packed, more should be added; some poultry keepers fork the litter over frequently in order to retard its packing. Heavy hens will work in deeper litter than the light breeds.

A dark house may be made somewhat lighter by whitewashing all the interior walls. The addition of a little carbolic acid will incidentally help to exterminate insect pests. Whitewash may be easily applied with a spray pump if not made too thick. When only a little is needed, lime for it may be purchased in five and ten cent packages, one package being enough for a pail of whitewash.

A nest for each five hens is none too many when the birds are laying well. It should preferably be twelve or fourteen inches square. A dust box of ample size is also needed and it is well to place it where it will receive the sun much of the day.

The curtains or windows should be closed only in very cold weather or while a storm is in progress. Fresh air is of vital importance to poultry.

The hens which remain on the roost last in the morning and return to them first at night are not likely to be good layers. The hens which eat most, lay most. If you find several hens on the roosts night after night with only partially filled crops, it is safe to say that they are not paying their way.

It is well to scald the feed and water dishes several times a month, even in winter.

The poultry feeder should beware of new corn. It may be safely fed, however, if it is first put into the oven and parched. The hens will relish it, too, if it is fed warm. Warm corn is, in fact, a sort of gentle stimulant.

Banking up the poultry house will help to stop draughts. It is a good plan. It is not too late to stop leaks in the roof. Dampness and draughts are two things to be carefully avoided.

Geese for the Christmas feast should be fattened several weeks. It is necessary only to shut the birds into rather small yards and feed them a ration of three parts corn meal to one part bran, with some beef scraps added, and to supply water in abundance for drinking purposes.

This also is the month to buy breeding geese, for they need to be mated several months before the laying season begins. Breeders should be at least three years old and they commonly are mated in pairs, although a mature gander will run with three geese. With these birds, a mating usually lasts for life, unless they are forcibly separated. Geese will live to be very old, but it is not well to keep a gander more than six or seven years, for he is likely to become quarrelsome, if not vicious, as he grows older. Geese require only a rough shelter and are profitable when they can have wide range.

This is an excellent month to buy breeding cockerels.

Eggs should be collected several times a day in cold weather. They may freeze if left too long in the nests.

It is well worth while paying a visit to the nearest large poultry show, which probably will be held this month or next. You will be almost certain to pick up some valuable information, besides having a good time. If you keep a certain estab-

lished breed and are interested in good stock, it is also worth while joining the club made up of men and women who have selected the same breed that you have. And once having made a selection, it is well to stick to it. There is less in the breed itself than in the way it is handled.

APPENDIX

EXPERIMENT STATIONS

THE owners of country homes will find it greatly to their advantage to keep in close touch with the experiment stations nearest them. The various stations are located at the places named below:

- | | |
|--|---------------------------------------|
| Alabama—Auburn, Uniontown, and Tuskegee. | Missouri—Columbia and Mountain Grove. |
| Alaska—Sitka. | Montana—Bozeman. |
| Arizona—Tucson. | Nebraska—Lincoln. |
| Arkansas—Fayetteville. | Nevada—Reno. |
| California—Berkeley. | New Hampshire—Durham. |
| Colorado—Fort Collins. | New Jersey—New Brunswick. |
| Connecticut—Storrs and New Haven. | New Mexico—Mesilla Park. |
| Delaware—Newark. | New York—Geneva and Ithaca. |
| Florida—Lake City. | North Carolina—Raleigh. |
| Georgia—Experiment. | North Dakota—Agricultural College |
| Hawaii—Honolulu. | Ohio—Wooster. |
| Idaho—Moscow. | Oklahoma—Stillwater. |
| Illinois—Urbana. | Oregon—Corvallis. |
| Indiana—La Fayette. | Pennsylvania—State College. |
| Iowa—Ames. | Porto Rico—Mayaguez. |
| Kansas—Manhattan. | Rhode Island—Kingston. |
| Kentucky—Lexington. | South Carolina—Clemson College. |
| Louisiana—Baton Rouge, New Orleans, and Calhoun. | South Dakota—Brookings. |
| Maine—Orono. | Tennessee—Knoxville. |
| Maryland—College Park. | Texas—College Station. |
| Massachusetts—Amherst. | Utah—Logan. |
| Michigan—Agricultural College. | Vermont—Burlington. |
| Minnesota—St. Anthony Park, St. Paul. | Virginia—Blacksburg. |
| Mississippi—Agricultural College. | Washington—Pullman. |
| | West Virginia—Morgantown. |
| | Wisconsin—Madison. |
| | Wyoming—Laramie. |

PERIOD OF GESTATION IN ANIMALS

Mare	11 to 12 months.
Cow	9 to 9½ months (285 days).
Sheep and goat.....	5 months (21 weeks).
Sow	4 months.
Dog	2 months.
Cat	50 days.
Rabbit	30 days.

INCUBATION PERIODS

Common hen	21 days
Partridge	24 days
Pheasant	25 days
Guinea hen	25 days
Common duck	28 days
Pea hen	28 days
Turkey	28 days
Goose	30 days

STANDARD WEIGHTS OF POULTRY IN POUNDS

	Cock	Cockerel	Hen	Pullet
Plymouth Rocks, all varieties.....	9.5	8.0	7.5	6.0
Wyandottes, all varieties.....	8.5	7.5	6.5	5.5
Rhode Island Red.....	9.5	8.0	7.5	6.5
Buckeye	9.0	8.0	6.0	5.0
Brahma, Light	12.0	10.0	9.5	8.0
Brahma, Dark	11.0	9.0	8.5	7.0
Cochins, all varieties.....	11.0	9.0	8.5	7.0
Langshans, all varieties.....	9.5	8.0	7.5	6.5
Minorca, Single-comb Black.....	9.0	7.5	7.5	6.5
Minorca, Single-comb White and Rose-comb Black.....	8.0	6.5	6.5	5.5
Blue Andalusians.....	6.0	5.0	5.0	4.0
Redcap	7.5	6.0	6.0	5.0
Orpingtons, all varieties.....	10.0	8.5	8.0	7.0
Houdan	7.5	6.5	6.5	5.5
Cornish	9.0	8.0	7.0	6.0
White-laced Red	8.0	7.0	6.0	5.0

PLANTING TABLE FOR VEGETABLE

Name	When to Plant		S f
	Indoors	Outdoors	
Asparagus.....		April.	1 0
Asparagus plants.....		April-May.	50-8
Beans (bush).....		May-August.	1 p
Beans (pole).....		May.	½ p
Beets.....		April-August.	2 0
Cabbage (early).....	March.	May.	¼ 0
Cabbage (late).....		May.	¼ 0
Carrot.....		April-July.	1 0
Cauliflower.....	March.	May.	¼ 0
Celery.....	March.	May-June.	¼ 0
Corn.....	April.	May-June.	¼ p
Cucumber.....	March.	April-July.	½ 0:
Egg Plant.....	March.	.....	1/3
Endive.....		April-September.	1 0
Kale.....		May.	1 0
Lettuce.....	Feb.-March.	April-Aug. 10.	½ 0.
Muskmelon.....	April.	May-June.	¼ 0. 15
Melon (Watermelon).....		May-June.	½ 0. 15
Onions.....	February.	April.	1 0
Parsley.....		April.	½ 0.
Parsnip.....		April.	½ 0
Peas.....		March-June.	1 q
Peppers.....	March.	May-June. (Set out plants.)	1/3
Potato (Irish).....		May-June.	1 pk 1 0
Pumpkin.....		May-July.	½ 0 15
Radish.....	Feb.-March.	April-September.	1 0.
Rhubarb Roots.....		Spring or Fall.	30
Salsify (Oyster Plant).....		April.	1
Spinach.....		Mar.-May and Oct.	1
Squash.....		May-June.	½ 0 25
Tomato.....	March.	May-June.	¼ 0 25
Turnip.....		April-July.	½

PLANTING TABLE FOR FLOWERS. Allow 10 days for each 100 miles South or North of New York. Indoor planting is for seeds started in the house, in hot-bed or coldframe, the latter being available after March 1st in many sections. Weather may vary dates.

Name	When to Plant		Distance Apart (Inches)	Flowering Periods	Color	Comment
	Indoors	Outdoors				
Achillea (Sneezewort).....		June-Oct.	12	July-Oct.	White.	A perennial, two feet high. The Pearl is a good variety.
Ageratum.....	March.	May.	6	June-Oct.	Blue, white.	Annual, grown from seeds or cuttings. Fine for borders. Blues are most popular.
Alysum (Annual).....		May-June.	4	June Oct.	White.	Excellent annual for borders.
Alysum (Perennial).....		June-Sept.	6	July-Oct.	Yellow.	Used for edgings and rock work.
Aquilegia (Columbine).....		June 15 Sept	8	Jan.-Sept.	White, yellow, blue, pink.	Hardy perennial. Blooms the second year.
Asters (China).....	March-April.	May-June.	9	July-Oct.	White, pink, yellow, red, purple, lavender.	Bedding annual. Use wood ashes when setting plants.
Balsam.....		May.	9	July-Sept.	Red, white, pink, yellow.	Annual, to grow in clumps in the sun.
Calendula (Pot marigold).....		May-June.	6	June Oct.	Yellow, orange.	Easily grown annuals, that self sow. Fill vacant spots with them.
Calliopsis.....		May.	6	July-Oct.	Yellow, brown.	Showy annuals, good for cutting. Easy to grow, but they like the sun.
Campanula (Canterbury Bells).....		June-Aug.	12	June Aug.	Blue, pink, white.	Perennial, blooming the second year.
Celosia (Cockscomb).....	April.	May.	4	June Oct.	White, red, pink, yellow.	Annual. Combs may be dried for winter bouquets.
Candytuft.....		May 15 June 15.	4	June Oct.	Pink, white, red, purple.	Annuals, for beds, borders or to cut. Make successive sowings.
Centaurea (Corn flower).....		April.	6	June-Oct.	Blue, white, pink.	Annual, to grow in masses. Self-sown. Keep flowers picked.
Chrysanthemum (Annual).....	April.	May.	6	July Oct.	White, yellow, red.	Annuals, for massing at a distance.
C. bicolor (Sunflower).....	March.	May.	8	July Oct.	Purple.	Climbing vine. Plant seeds edgewise.
C. cosmos (Larkspur).....	April.	May.	12	July Sept.	White, red, pink.	Tender annuals. Pinch back to make bushy plants.
Cosmos (Late).....	March-May.	May.	12	Sept.-Oct.	White, pink, red.	Tie to stakes if exposed to winds.
Dahlia.....	March-April.	June.	36	Aug-Oct.	White, yellow, pink, red.	Late-started plants give largest flowers.
Delphinium (Larkspur).....	April.	June-Aug.	12	July-Oct.	Blue, yellow, white.	Fine tall perennials. Bloom the second year. Blues are best.
Dianthus (Pinks).....	March-May	May.	6	July-Oct.	White, red, striped.	Perennial, blooming the first year.
Digitalis (Foxglove).....	April.	July-Aug.	9	July-Aug.	Pink, white, blue.	Fine in rocky border. Bloom the second year.
Echscholtzia (California Poppy).....	April.	May.	4	July-Aug.	Yellow, orange.	Do not transplant. Foliage is pretty.
Gallardia.....	March-April.	May.	4	July Sept.	Yellow, red.	Showy perennial, for beds.
Geranium.....	April.	May.	4	Sept-Oct.	Excellent to hide unsightly objects.	
Four O'Clocks.....	April.	May.	4	July Sept.	White, pink, yellow.	Annuals, for borders or beds.
Gypsophila.....	April.	May.	10	July-Sept.	White.	Fine to use in bouquets. Grow Elegant
Helianthus (Sunflower).....	April.	May.	10	July Oct.	Yellow.	Make a good screen. Try the new kinds.
Hollyhock.....	March-April.	June 15-July.	15	Aug-Sept.	White, red, yellow, pink.	Perennial. Spray with Bordeaux.
Koeleria (Summer Cypress).....	April.	May.	12	July Oct.	The bougie turns red in the fall.	
Larkspur (Annual).....	March-April.	May-June	6	June-Sept.	Red, white, blue, pink.	Grow in masses. The flowers are good for cutting.
Lobelia.....	April.	May.	4	June Sept.	Blue, white.	Lobelia inonus is very popular for low edgings. It is blue. Use manure water for Lobelias.
Marigold.....	April.	May.	6	July Oct.	Brown, red, yellow.	Showy, easily grown annuals.
Mignonette.....	March-April.	May.	6	July Oct.	Flowers very fragrant.	Make successive sowings. Like cool soil.
Myosotis (Forget-me-not).....	March-April.	May.	6	June-Aug.	Blue, pink, white.	Perennial, but blooms the first season. Likes shade and moist soil.
Nasturtium.....		May.	6	June Oct.	Various colors.	One of the best annuals.
Nicotiana (Tobacco plant).....	April.	May.	9	July Oct.	White, pink.	Tall, fragrant annuals, opening toward evening.
Pansy.....	March-May	April-Oct	4	April Oct	Many colors.	Give a rich, cool, moist soil and keep the blooms picked.
Paeonia.....	Feb-April.	May.	6	June Oct.	Red, pink, white.	One of the most free flowering annuals. Don't neglect watering.
Phlox (Annual).....	March-April.	May.	8	July-Oct.	Red, white, yellow, pink.	One of the best low annuals.
Poppy (Annual).....	April.	May.	4	July Oct.	Red, white, pink, yellow.	Very attractive. Do not transplant. Make successive sowings.
Poppy (Perennial).....	June-Sept.	July.	9	June-Aug.	Red, white, pink, yellow.	Fine to give bright colors.
Portulaca.....	April.	May.	4	July Oct.	Red, pink, yellow, white.	Unexcelled for dry, sandy and sunny spots. Close at night.
Pyrethrum.....	April.	May.	12	July Aug.	Red, white, pink.	Grow in masses. Good to cut.
Ricinus (Castor Oil Plant).....	April.	May.	36	July Oct.	No flowers.	Very ornamental annual. Best started in the house in pots.
Salpiglossis.....	April.	May.	6	July Oct.	White, brown, red.	Good in flowerings annual and easy to grow.
Salvia.....	April.	May.	8	Aug-Oct.	White, green, lavender and rich, sandy soil.	Give a green, long-kegged and rich, sandy soil.
Scabiosa (Mourning Bride).....	Feb-March	May.	9	June Sept.	White, yellow, pink.	Long flowering annual.
Stocks.....	Feb-April.	May.	12	June Oct.	Pink, white, scarlet, yellow.	Good for beds and to cut.
Sweet Peas.....	March-April.	May.	3	July-Sept.	Many colors.	Plant in rich soil and moist soil, in the open place, to help the roots.
Verbena.....	Feb-April.	May.	6	June Oct.	White, red, blue, pink.	Indicidal annual, for bedding in the sun.
Zinnia.....	March-April.	May.	6	June Oct.	Red, yellow, white, pink.	Good summer plant for beds, and very easy to grow.

PLANTING TABLE FOR VEGETABLES.

Good for the latitude of New York. Allow 10 days for each 100 miles North or South. Particularly adapted to small gardens where work is done by hand.

Name	When to Plant		Seed Needed for 100 Ft.	Planting Depth (Inches)	Distance Apart (Inches)	Comment
	Indoors	Outdoors				
Asparagus.....		April.	1 oz.	1	3 to 5	Give asparagus rich, well-drained soil.
Asparagus plants.....		April-May.	50-80	8	12	Plant one-year-old roots and grow two years before cutting. Mulch with manure in the fall.
Beans (bush).....		May-August.	1 pt.	2	3 to 6	Make successive plantings.
Beans (pole).....		May.	½ pt.	2	3 to 4 ft.	Plant several kinds to determine which succeeds best in your soil.
Beets.....		April-August.	2 oz.	1	8	Plant an abundance to allow for beet greens. Use Early Egyptian.
Cabbage (early).....	March.	May.	¾ oz.	½	18	For very early cabbages sow seed in the hot bed and transplant to cold frame in March.
Cabbage (late).....		May.	¼ oz.	½	24	Be sure to try the Savoy. It is unrivalled.
Carrot.....		April-July.	1 oz.	½	3 to 8	Grow French Forcing and plant for a succession. Danvers' Half-long is good for winter.
Cauliflower.....	March.	May.	½ oz.	½	20	Likes a cool, rich, moist soil
Celery.....	March.	May-June.	½ oz.	¾	4 to 8	Grow Paris Golden for an early crop and Boston Market later.
Corn.....	April.	May-June.	¾ pt.	1½	30 to 35	Golden Bantam planted every two weeks will give a long succession.
Cucumber.....	March.	April July.	½ oz.	1	Hills 4 ft.	Get early "cukes" by starting seeds in the house or in a cold frame.
Egg Plant.....	March.		1/3 oz.	½	24 to 36	Needs a long season.
Endive.....		April-September.	1 oz.	½	6 to 12	Grow like lettuce, and tie up the leaves to blanch them two or three weeks before wanted.
Kale.....		May.	1 oz.	½	24	Kale is best after the frost has touched it.
Lettuce.....	Feb.-March.	April-Aug 10.	½ oz.	¾	6	Must be grown rapidly to be good.
Muskmelon.....	April.	May-June.	½ oz. for 15 hills.	1	Hills 6 ft.	Grow an early kind, like Netted Gem, in the North. Put manure in the hill
Melon (Watermelon).....		May-June.	½ oz. for 15 hills.	1	Hills 8 ft	Ask your seedsmen to recommend a variety. Use manure in the hill
Onions.....	February.	April.	1 oz.	½	6	Plant Danvers' Yellow Globe and keep the ground well cultivated
Parsley.....		April.	½ oz.	¾	6	Soak the seed over night in lukewarm water.
Parsnip.....		April.	½ oz.	½	6	Use the Student in the home garden.
Peas.....		March June.	1 qt.	2½	Thick	Make the ground very fine and plant for a succession.
Peppers.....	March.	May-June. (Set out plants)	1/3 oz.	½	2 ft	Must be started under cover
Potato (Irish).....		May-June.	1 pk for 100 hills.	Early 2 Late 5	12 or more.	Irish Cobbler is a good early sort and Green Mountain a reliable late variety
Pumpkin.....		May July	½ oz for 15 hills.	1½	Hills 6 ft.	Pumpkins may be planted in the corn or beside the compost heap
Radish.....	Feb.-March.	April-September.	1 oz.	¾	2	Plant every ten days for a long season
Rhubarb Roots.....		Spring or Fall.	30	3	3 ft.	Rhubarb craves heavy feeding with manure every fall.
Salsify (Oyster Plant).....		April	1	1	5	May be left in the ground like parsnips until spring
Spinach.....		Mar-May and Oct	1	1	5	Sow in the fall and covered with a light litter spinach will give an early spring crop
Squash.....		May June.	½ oz for 15 hills	1½	Hills 5 ft.	Grow on the edge of the garden and let the vines run on the grass to save garden space.
Tomato.....	March.	May June	1 qt. for 250 plants	½	36	Feed the plants during the season instead of making the ground very rich.
Turnip.....		April July	½	½	4	Grow Extra Early White Milan and White Egg



LEGHORNS, ANCONA, POLISH, HAMBURG, GAMES, SUMATRA, SULTAN, FRIZZLE, NO
STANDARD WEIGHTS

	Cock	Cockerel	Hen	Pullet
Turkey, Bronze	36	33	25	20
Narragansett	30	20	18	12
White Holland	28	20	18	14
Bourbon Red	30	22	18	14

	Adult Drake	Young Drake	Adult Duck	Young Duck
Duck, Pekin	9	8	8	7
Aylesbury	9	8	8	7
Rouen	9	8	8	7
Cayuga	8	7	7	6
Muscovy	10	8	7	6
Indian Runner	4.5	....	4.5	....

CORNELL RATION FOR EGG-PRODUCTION

200 lbs. wheat	} Grain fed in deep litter sparingly in morning and freely at night.
200 lbs. cracked corn	
100 lbs. oats	
60 lbs. wheat middlings.....	} Ground feed in hopper, afternoon.
60 lbs. corn meal	
50 lbs. beef scraps	
30 lbs. wheat bran	
10 lbs. alfalfa meal	
10 lbs. linseed oil meal	
7 lbs. salt	

Proportion, about 2 lbs. grain to 1 lb. ground feed.

Cabbage, beets, sprouted oats or grass; oyster shells; grit; water.

USUAL DISTANCES APART FOR PLANTING VEGETABLES

- Artichoke—Rows 3 or 4 ft. apart, 2 to 3 ft. apart in the row.
 Asparagus—Rows 3 to 4 ft. apart, 1 to 2 ft. apart in the row.
 Beans, Bush—1 ft. apart in rows, 2 to 3 ft. apart.
 Beans, Pole—3 to 4 ft. each way.
 Beet, Early—In drills 12 to 18 in. apart.
 Beet, Late—In drills 2 to 3 ft. apart.
 Broccoli—1½x2½ ft. to 2x3 ft.
 Cabbage, Early—16x28 in. to 18x30 in.
 Cabbage, Late—2x3 ft. to 2½x3½ ft.
 Carrot—In drills 1 to 2 ft. apart.
 Cauliflower—2x2 ft. to 2x3 ft. [in. each way.
 Celery—Rows 3 to 4 ft. apart, 6 to 9 in. in the row; "new celery culture," 7x7
 Corn, Salad—In drills 12 to 18 in. apart.
 Corn, Sweet—Rows 3 to 3½ ft. apart, 9 in. to 2 ft. in the row.
 Cress—In drills 10 to 12 ft. apart.
 Cucumber—4 to 5 ft. each way.
 Egg-Plant—3x3 ft. Endive—2x1 ft. to 1x1½ ft.

NUMBER OF PLANTS REQUIRED TO SET AN ACRE OF GROUND
AT GIVEN DISTANCES

Inches	Plants	Inches	Plants
1X 1	6,272,640	2X 4	784,080
1X 2	3,136,320	2X 5	627,269
1X 3	2,090,880	2X 6	522,720
1X 4	1,568,160	2X 7	448,045
1X 5	1,254,528	2X 8	392,040
1X 6	1,045,440	2X 9	348,480
1X 7	896,091	2X10	313,632
1X 8	784,080	2X11	285,120
1X 9	696,960	2X12	261,360
1X10	627,269	3X 3	696,960
1X11	570,240	3X 4	522,720
1X12	522,720	3X 5	418,175
2X 2	1,568,160	3X 6	348,480
2X 3	1,045,440	3X 7	298,697

SEED TABLES

QUANTITY OF SEED REQUIRED TO SOW AN ACRE

Asparagus	4 or 5 lbs. or 1 oz. for 50 ft. of drill.
Beans, dwarf	in drills 1½ bu.
Beans, pole	in drills 10 to 12 qts.
Beet	in drills 5 to 6 lbs.
Buckwheat	in drills 1 bu.
Cabbage	in beds to transplant ¼ lb.
Carrot	in drills 2 to 4 lbs.
Cauliflower	1 oz. of seed for 1,000 plants.
Celery	1 oz. for 2,000 plants.
Clover	for orchards 8 to 16 lbs.
Clover, crimson	for orchards and vineyards. 8 to 16 lbs.
Corn	in hills 8 to 10 qts.
Cow-Pea	broadcast 2 bu.
Cucumber	in hills 2 lbs.
Cress, water	in drills 2 to 3 lbs.
Cress, upland	in drills 2 to 3 lbs.
Egg-Plant	1 oz. of seed for 1,000 plants.
Grass	for lawns 2 to 4 bu.
Kale or Sprouts.	3 to 4 lbs.
Lettuce	1 oz. of seed for 1,000 plants.
Melon, musk	in hills 2 to 3 lbs.
Melon, water	in hills 4 to 5 lbs.
Mustard	broadcast ½ bu.
Onion	in drills 5 to 6 lbs.
Onion Seed, for sets.	in drills 30 lbs.
Onion Sets	in drills 6 to 12 bu.
Orchard Grass	20 to 30 lbs.
Parsnip	in drills 4 to 6 lbs.
Peas	in drills 1 to 2 bu.
Peas	broadcast 2 to 3 bu.
Potato (cut-tubers)	7 to 8 bu.
Pumpkin	in hills 4 to 5 lbs.
Radish	in drills 8 to 10 lbs.
Rye	for orchards. 1 to 1½ bu.

Sage	in drills	8 to 10 lbs.
Salsify	in drills	8 to 10 lbs.
Spinach	in drills	10 to 12 lbs.
Squash, bush	in hills	4 to 6 lbs.
Squash, running	in hills	3 to 4 lbs.
Tomato	to transplant	$\frac{1}{4}$ lb.
Turnip	in drills	1 to 2 lbs.
Turnip	broadcast	3 to 4 lbs.
Vetch .....	.....	1 bu.

AVERAGE TIME REQUIRED FOR GARDEN SEED TO GERMINATE

Plant	Days	Plant	Days
Bean	5—10	Lettuce	6—8
Beet	7—10	Onion	7—10
Cabbage	5—10	Pea	6—10
Carrot	12—18	Parsnip	10—20
Cauliflower	5—10	Pepper	9—14
Celery	10—20	Radish	3—6
Corn	5—8	Salsify	7—12
Cucumber	6—10	Tomato	6—12
Endive	5—10	Turnip	4—8

WEIGHT AND SIZE OF GARDEN SEEDS

Seed	Weight	Size
Angelica	5.825	11.01
Anise	11.65	12.96
Asparagus bean (Delichos Sasquipedalis).....	29.90	32.40 to 42.12
Balm	21.35	129.60
Basil	20.58	51.84
Bean	*24.26 to 33.01	*4.86 to 5.18
Beet	9.71	3.24
Borage	18.74	4.21
Borecole	27.18	19.44
Broccoli	27.18	24.30
Cabbage	27.18	19.44

* In 100 grains.

MATURITY TABLE FOR VEGETABLES

		Days from seed
Beans, string		45-65
Beans, shell		65-70
Beets, long, blood		150
Cabbage, early		105
Cabbage, late		150
Cauliflower		110
Corn		75
Egg-plant		150-160
Lettuce		65
Melon, water		120-140
Melon, musk		120-140
Onion	135-150	Squash, summer
Pepper	140-150	Squash, winter
Pumpkin	100-125	Tomatoes
Radish	30-45	Turnips

ANALYSES COMPILED FROM VARIOUS RELIABLE SOURCES

GENERAL ANALYSES OF FRUITS AND FRUIT-PLANTS

	Sugar	Free acid	Albuminous substance	Poetter's substance	Soluble matter	Water
Apples	6.83	.85	.45	.47	14.96	81.04
Apricots	1.531	.766	.399	9.283	12.723	82.125
Austrian Grapes	13.78	1.020	.832	.498	16.49	79.997
Cultivated Strawberries	7.575	1.133	.359	.119	9.666	87.474
Cultivated Raspberries	4.708	1.356	.544	1.746	8.835	86.557
Green Grapes	2.96	.96	.477	10.475	15.19	80.841
Heart-Cherries	13.11	.351	.903	2.286	17.25	75.37
Mulberries	9.193	1.86	.394	2.031	14.043	84.707
Peaches	1.580	.612	.463	6.313	9.39	84.99
Pears	7.00	.074	.26	3.281	10.90	83.95
Red Currants	4.78	2.31	.45	.28	8.36	85.84
Red Gooseberries	8.063	1.358	.441	9.69	11.148	85.565
Wild Raspberries	3.599	1.980	.646	1.107	7.500	83.86
Wild Strawberries	3.247	1.650	.619	.145	6.398	87.271

ANALYSES OF VARIOUS MATERIALS USED FOR FERTILIZERS

PERUVIAN GUANO

Moisture at 100° C.....	12.17	Total Nitrogen	5.13
Total Phosphoric Acid.....	18.45	Actual Ammonia	3.94
Soluble Phosphoric Acid.....	1.54	Organic Nitrogen	0.86
Reverted Phosphoric Acid.....	5.92	Nitrogen as Nitric Acid.....	0.33
Insoluble Phosphoric Acid	10.99	Insoluble Matter	13.64
Potassium Oxide	3.46		

NITRATE OF SODA

Nitrate of Soda is mined in Chile and purified there before shipment. It usually contains about 16 per cent of nitrogen, equivalent to 97 per cent of pure Nitrate of Soda. It contains, besides, a little salt and some moisture.

Moisture .....	.35	Sulphate of Soda	0.21
Salt (Sodium Chloride) .....	.23	Pure Nitrate of Soda.....	99.21

MURIATE OF POTASH (TWO SAMPLES)

Commercial Muriate of Potash consists of about 80 per cent of Muriate of Potash (Potassium Chloride); 15 per cent or more of common Salt (Sodium Chloride) and 4 per cent or more of Water.

	No. 1.	No. 2.
Actual Potash	50.0	52.82
Equivalent Muriate	79.2	83.70

GORMAN POTASH SALTS—AVERAGE OF II ANALYSES

Moisture at 100° C.....	13.14	Magnesium Oxide	9.25
Potassium Oxide	21.63	Sulphuric Acid	10.85
Sodium Oxide	13.76	Chlorine	35.63
Calcium Oxide	0.85	Insoluble Matter	2.08

WEIGHTS AND MEASURES USED IN THE UNITED STATES

LONG MEASURE				MARINERS' MEASURE			
12	inches	= 1 foot	—	6	feet	= 1 fathom	
3	feet	= 1 yard	— 36 inches	120	fathoms	= 1 cable length	
5½	yards	= 1 rod	— 16½ feet	7½	cable lengths	= 1 mile	
40	rods	= 1 furlong	— 660 feet	5,280	feet	= 1 statute mile	
8	furlongs	= 1 mile	— 5,280 feet	6,085	feet	= 1 nautical mile	
				3	nautical miles	= 1 marine league	

LIQUID MEASURE

4 gills	= 1 pint
2 pints	= 1 quart
4 quarts	= 1 gallon
31½ gallons	= 1 barrel
2 barrels	= 1 hogshead

SQUARE MEASURE

144 square inches	= 1 square foot
9 square feet	= 1 square yard
30¼ square yards	= 1 square rod
160 square rods	= 1 acre
640 acres	= 1 square mile
36 square miles	= 1 township

CUBIC MEASURE

1,728 cubic inches	= 1 cubic foot	1 gallon contains 231 cubic inches
27 cubic feet	= 1 cubic yard	1 bushel contains 2,150.4 cubic inches
128 cubic feet	= 1 cord of wood or stone	A cord of wood is 8 ft. long, 4 ft. wide and 4 ft. high

DRY MEASURE

2 pints	= 1 quart
8 quarts	= 1 peck
4 pecks	= 1 bushel

CIRCULAR MEASURE

60 seconds	= 1 minute	1 geographic mile	= 1.1527 statute miles
60 minutes	= 1 degree	1 degree of the equator	= 69.124 statute miles
360 degrees	= 1 circle		
1 degree	= 60 geographic miles		

APOTHECARIES' WEIGHT

20 grains	= 1 scruple
3 scruples	= 1 dram
8 drams	= 1 ounce
12 ounces	= 1 pound

TROY WEIGHT

24 grains	= 1 pennyweight
20 pennyweights	= 1 ounce
12 ounces	= 1 pound

AVOIRDUPOIS WEIGHT

27 11-32 grains	= 1 dram
16 drams	= 1 ounce
16 ounces	= 1 pound
2,000 pounds	= 1 short ton
2,240 pounds	= 1 long ton

TIME MEASURE

60 seconds	= 1 minute
60 minutes	= 1 hour
24 hours	= 1 day
365 days	= 1 year
100 years	= 1 century

STATIONERS' TABLE

24 sheets	= 1 quire
20 quires	= 1 ream
2 reams	= 1 bundle
5 bundles	= 1 bale

COUNTING

12 things	= 1 dozen
12 dozen	= 1 gross
12 gross	= 1 great gross
20 things	= 1 score

CLOTH MEASURE

2¼ inches	= 1 nail
4 nails	= 1 quarter
4 quarters	= 1 yard

SURVEYORS' MEASURE

7.92 inches	= 1 link
25 links	= 1 rod
4 rods	= 1 chain
10 square chains	= 1 acre

MISCELLANEOUS

3 inches	= 1 palm
4 inches	= 1 hand
6 inches	= 1 span
18 inches	= 1 cubit
21.8 inches	= 1 bible cubit
2½ feet	= 1 military pace

SPRAYING CALENDAR

VEGETABLES—BEAN

TIME TO SPRAY	REMEDY	DISEASE OR INSECT
When 2 or 3 inches high and at 10-day intervals until pods set.	Bordeaux.	Anthracoze.

CABBAGE AND CAULIFLOWER

1. When worms first appear, but not after heading begins.	Arsenate of Lead. (After heading begins apply powdered hellebore.)	Cabbage worm.
2. When worms appear.	Poisoned mash.	Cutworms.
3. When lice appear.	Nickoteen or kerosene emulsion.	Lice.

CELERY

TIME TO SPRAY	REMEDY	DISEASE OR INSECT
1. As soon as plants become established, every 2 weeks until half grown.	Bordeaux.	Blight.
2. When half grown and after.	Ammonical copper carbonate.	Blight.

CUCUMBERS, MELONS, SQUASHES AND PUMPKINS

1. Begin when plants are small and continue at intervals of 2 weeks.	Weak Bordeaux; 2 ounces copper sulphate, 3 ounces lime to 3 gallons of water.	Mildew and other fungi, and striped cucumber beetle. (Acts as repellent to latter.)
2. As soon as beetle appears.	Sprinkle with powdered tobacco or air-slaked lime, or place frame covered with a fine netting over the plants.	Striped cucumber beetle.
3. Carefully watch and as soon as lice appear.	Nickoteen.	Melon lice.

PEAS

When worms appear.	Poisoned bran mash.	Cutworms.
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POTATOES

1. Before planting.	Soak seed in formalin solution.	Scab and dry rot.
2. When plants are 6 inches high and at intervals of 10 days to 2 weeks until growth stops.	Strong Bordeaux with strong arsenate of lead mixed, slug shot or bug death.	Potato beetle and other insects, late and early blight.

TOMATOES

1. Before plants are taken from seed bed.	Bordeaux.	Rot and blight.
2. Five or six days after transplanting.	Bordeaux.	Rot and blight.
3. Repeat No. 1 every 10 days or 2 weeks if necessary.	Bordeaux.	Rot and blight.
4. When worms appear.	Poisoned mash, paper collars.	Cutworms.

ORCHARD FRUITS—APPLES

TIME TO SPRAY	REMEDY	DISEASE OR INSECT
1. In spring before leaf buds open.	Winter-strength, lime sulphur.	San Jose and other scales, blister mite.
2. When leaves begin to come out but before blossoms open.	Bordeaux, 3-3-50, or summer-strength lime sulphur. Add 3 pounds of arsenate of lead to 50 gallons.	Scab and leaf spot. Curculio and various leaf-eating caterpillars.
3. Immediately after blossoms have fallen, before calyx cups close.	Summer-strength lime sulphur. Add 2½ pounds of arsenate of lead to 50 gallons.	Scab, leaf spot, sooty fungus, plant lice, codling moth, Curculio.
4. Three weeks after blossoms have fallen.	Same as No. 3.	Same as No. 3.
5. Eight or nine weeks after No. 4.	Bordeaux, 3-3-50. Add 2½ pounds of arsenate of lead to 50 gallons.	Bitter rot, blotch, second spread of scab. Fall caterpillars, second brood of codling moth.

PEACHES, NECTARINES AND APRICOTS

1. Before leaf buds swell.	Winter-strength lime sulphur.	San Jose scale, leaf curl, brown rot.
2. When calyx tubes have fallen.	Make milk of lime with 2 pounds lump lime to 50 gallons of water. Add 2 pounds of arsenate of lead.	Curculio.
3. Two weeks after calyx tubes have fallen.	Self-boiled lime sulphur and arsenate of lead mixed.	Curculio, scab and brown rot.
4. One month before fruit ripens.	Self-boiled lime sulphur.	Scab and brown rot.

PEARS

Same as for apple.	Use Bordeaux rather than summer-strength lime sulphur.	Fungus and insect troubles like those of apple.
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PLUMS

TIME TO SPRAY	REMEDY	DISEASE OR INSECT
1. In spring before growth starts.	Winter-strength lime sulphur.	San Jose scale.
2. Just before blossoms open.	Bordeaux, 3-3-50, or summer-strength lime sulphur on European or domestic varieties. Self-boiled lime sulphur on Japanese varieties. Add 2 pounds of arsenate of lead to 50 gallons.	Brown rot. Curculio.
3. As soon as shocks fall, after blooming.	Same as No. 2. Jar trees.	Brown rot, leaf spot and Curculio.
4. Two to three weeks after No. 3.	Same as No. 3.	Same as No. 3.
5. When fruit is ripening.	Ammonical copper carbonate.	Brown rot.

CHERRIES

1. Just before blossoms open.	Bordeaux, 3-3-50, or summer-strength lime sulphur. Add 2 pounds of arsenate of lead to 50 gallons.	Fruit rot. Curculio.
2. As soon as blossoms fall.	Self-boiled lime sulphur. Add 2 pounds of arsenate of lead to 50 gallons.	Fruit rot. Curculio.
3. Two to three weeks after No. 2.	Self-boiled lime sulphur. Ammonicated copper carbonate.	Fruit rot. Curculio.
4. After fruit is picked.	Bordeaux, 3-3-50. Add 2 pounds of arsenate of lead to 50 gallons.	Leaf spot. Slugs.

FLOWERS—ROSES

1. When bugs appear.	Arsenate of lead, hellebore or hand pick.	Rose chafer and slug.
2. When bugs appear.	Nickoteen or kerosene emulsion.	Leaf hopper and lice.

ASTERS

TIME TO SPRAY	REMEDY	DISEASE OR INSECT
When plants are a few inches high and at intervals of 2 weeks.	Ammonical copper carbonate on the under surface of the leaves.	Leaf rust.

CHRYSANTHEMUMS

Begin when small and every 10 days or 2 weeks after.	Ammonical copper carbonate.	Leaf spot.
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